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PAPER TRADE JOURNAL

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Vol. LXXXIV, No. 14 APRIL 7, 1927 Per annum $4.00 Per Copy 10 Cents

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This shows the back view with shake mechanism and connections to machine. The amount of throw may be adjusted by hand-wheel "A" and the speed of throw by adjustable motor "B" while machine and shake are running

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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-FIFTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

LESLIE R. PALMER, President — GEO. S. MACDONALD, Vice-President & Treas. — F. K. HOPPIE, Secretary

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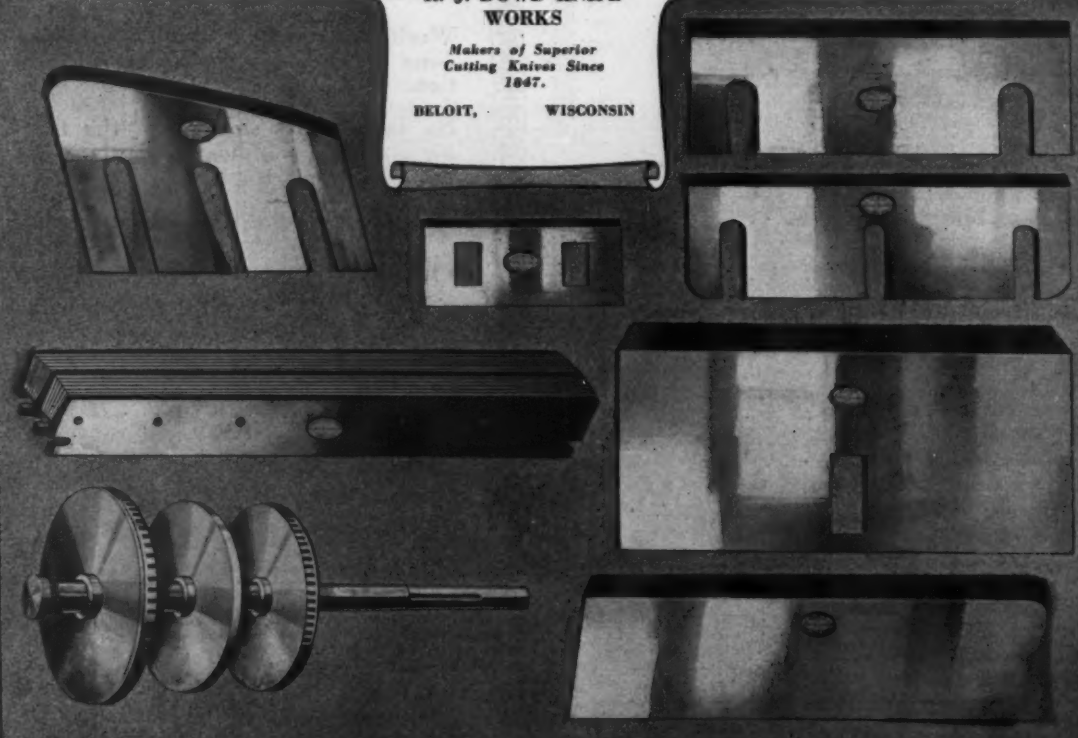

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PAPER TRADE JOURNAL

With Which Is Combined

PAPER

Vol. LXXXIV, No. 14 — Thursday, April 7, 1927

The Magazine of the Paper Industry

Paper Bag and Twine Association is Dissolved

Attempt to Stifle Competition Must End, Meeting Is Told by Counsel Jacob H. Corn—Group Denies Monopoly Charge and Plans to Organize a New and Legal Trade Association—Drive on Short Weight and Short Measure Dealers Urged—Body May Continue to Function for Several Weeks, Until Legal Formalities Are Complied With

At a special meeting held in the Community Building, 163rd street and Southern Boulevard, the Bronx, New York, held March 31, the Allied Paper Bag and Twine Jobbers' Association of Greater New York, Inc., which is under investigation by Attorney General Albert Ottinger on charges of violating the Donnelly Anti-Trust law, voted unanimously to dissolve.

This action was taken on the advice of Jacob H. Corn of 217 Broadway, who, together with his law partner, former Congressman Isaac S. Siegel, is counsel for the association. A new and "legal" trade association is to be former later, it was said.

Several witnesses at previous hearings testified they had been driven from the trade by the association because they had cut prices. Deputy Attorney General William B. Groat, who has been conducting the inquiry, told Mr. Corn the object of the proceeding was to dissolve the association and end the practices complained of.

"We don't want a new organization formed so that they may continue," said Mr. Groat.

Criticized for Informalities

"You have been guilty of informalities which subject you to criticism," Mr. Corn told the jobbers at the meeting. "You should have had by-laws and you have other short-comings. You have a right to combat unfair methods and the crookedness that puts honest trade at a disadvantage but not to stifle competition."

Mr. Corn said that members of the association who had sold merchandise below cost could not make an honest living, and that in order to do so they resorted to short weight and short measure and the delivery of goods inferior to the samples shown.

Dishonest Dealers Should Be Driven Out

"These dealers have lied and cheated the customers and their competitors and you have a right to drive them out of business unless they conduct it honestly," declared Mr. Corn.

"A committee should get after these dealers who deliver short weight or measure and the evidence should be taken to the District Attorney. The Attorney General is willing to end the investigation, and there will be no prosecutions if we dissolve, even if we didn't do what those who went to the Attorney General said."

After the resolution to end the association had been adopted Mr. Corn said it would take several weeks before the legal formalities could be complied with. "In the meantime you can continue to function," he told them. "Go ahead with your arrangements for a banquet and your collection of dues, but don't attempt to regulate prices, for we'll all go to jail if you do."

The wholesale and manufacturing companies cited in the investigation were: The Allied Paper Bag and Twine Jobbers Association, the Active Paper Company, Inc., the American Paper and Twine Company, the Amsterdam Paper Company, the Bronx Bag and Paper Company, Fair Deal Paper Company, Inc., Grand Bag and Paper Company, Inc., Globe Paper and Twine Company, West Side Paper Company, Weitzman & Sons Company, Inc., Jefferson Paper Co., Isador Melnick and the Gotham Tissue Corporation.

Three Proposals for Diana Paper Co.

WATERTOWN, N. Y., April 4, 1927.—Propositions from three different interests for the purchase of the paper mill, water power and other property of the Diana Paper Company, bankrupt, of Harrisville, have been informally presented to Daniel B. Schuyler, president of the Jefferson County National Bank, receiver, who was Saturday elected trustee of the estate. Within a week or 10 days it is expected that these offers will be reduced to writing so that there will be something definite to present to the creditors.

This was made known to the creditors by Attorney Charles A. Phelps, counsel for the receiver, at their first meeting held at the office of Judge John Conboy, referee in bankruptcy.

There was no opposition to the election of Mr. Schuyler as trustee and his selection was unanimous. His bond was fixed at $20,000 and will be furnished by a surety company this afternoon. Adjournment was then taken until May 3 for the purpose of giving any of the creditors an opportunity to examine the bankrupt, if they so desire.

Mr. Schuyler was appointed custodial trustee by Judge Frank Cooper of United States District Court at the time the petition in involuntary bankruptcy was filed with the court.

Austrian Paper Production Increases

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 5, 1927—The Austrian Paper, Pulp and Board Association reports the output by the association mills during 1926 at 197,780 metric tons of paper, 53,650 tons of board, 182,770 tons of chemical pulp, and 96,010 tons of mechanical pulp.

Wisconsin Hopes For Change In Timber Tax

Constitutional Amendment Which It Is Expected Will Be Passed at General Election This Fall, Will, It Is Believed, Solve Problem of Diminishing Sources of Wood Pulp Supply—Banquet Given Workmen Who Have Served Twenty-Five Years or More

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 4, 1927.—After weeks of work along educational lines, paper mill owners whose products are made with wood pulp are hoping the general election in Wisconsin April 5 will bring about a change in the timber tax situation. A constitutional amendment submitted to the voters will, if passed, help to solve the problem of diminishing sources of wood pulp.

It is impossible for the Wisconsin legislature to pass remedial legislation in this situation because of what is known as the "uniformity" clause in the state constitution. This clause provides that all property shall be taxed alike. Timber lands therefore are taxed from year to year, the tax increasing as the trees near the stage when they are valuable as lumber or pulp wood. The result is that the owners cut the timber with all possible speed before the tax becomes too great for them to realize anything when the logs go on the market. No attempt is made to replant the forests or protect second growth against fires.

The amendment will provide for an enabling act under which the legislature will have power to change the basis of taxation and make other changes that will provide a more equitable basis, and one that will bring about a desire to conserve the timber and carry on reforestation. A severance tax is planned, in case the voters ratify the amendment, so that standing timber will be taxed only at the time it is cut.

Expansion of wood pulp mills in Wisconsin has ceased due to the timber problem. The paper companies either have brought a transition to other kinds of paper or specialties, and have erected their new mills for the making of wood pulp either in Canada or the west coast region. New legislation will restore the former supply, but will help in a measure to alleviate the situation for those mills still dependent on Northern Wisconsin timber.

Banquet for Veteran Workmen

Cementing of closer relationship between employer and employee was one of the outstanding accomplishments of the banquet given at Appleton, Wis., on March 30 by the Appleton Chamber of Commerce for workmen in the industries who have served continuously for twenty-five years or more. Each employer dined with his workmen, and the assemblage enjoyed a program and an address by Hon. Fred R. Zimmerman, governor of Wisconsin. Specially made gold lapel buttons were presented to each man thus honored, L. J. Sensenbrenner of the Kimberly-Clark Company having this task in charge.

The record for long employment is held by Joseph Lausman and Charles Kranzusch of the Kimberly-Clark Company, who have each served this concern for 45 continuous years. Adolph Tock and Henry DeCoster of the Patten Paper Company, also have records of 44 and 43 years respectively, and Nick Mergen of the Fox River Paper Company, 42 years.

Employers of long standing also were given recognition. Three of these were F. J. Harwood, president of Appleton Woolen Mills, for being a manufacturer for 46 years; F. E. Saecker of the Appleton Machine Company for 44 years, and O. P. Schlafer, of the Schlafer Hardware Company, 51 years.

Mills taking part in the gathering of the paper or allied industries were: Appleton Machine Company, Appleton Wire Works, Inc., Appleton Woolen Mills, Fox River Paper Company, Interlake Pulp and Paper Company, Kimberly-Clark Company (Appleton and Kimberly mills only), Riverside Fibre and Paper Company, Patten Paper Company, Ltd., Schlafer Hardware Company, Thilmany Pulp and Paper Company, Tuttle Press Company, Valley Iron Works Company, and Wisconsin Traction, Light, Heat and Power Company. The arrangements were in charge of Elmer H. Jennings of the Thilmany Company, who is president of Appleton Chamber of Commerce.

Foremen's Safety School Dines

A dinner was held simultaneously in another room of Castle hall for more than 200 men of the Foremen's Safety School. This gathering was the windup of a weekly series of meetings at which safety was discussed from many angles by experts from other cities. Each foreman who had been a regular attendant at the sessions was presented with a certificate. The address was given by Herb Heilig, director of Appleton Vocational School, who was instrumental in organizing the school, and who also inaugurated the paper and pulp making classes in the evening school for mill employees. This group adjourned to the hall where the veteran employees were assembled and also heard the address of Gov. Zimmerman.

Kimberly Workmen Get Safety Prizes

Cash gifts of five dollars each were given last week by Kimberly-Clark Company to 110 employees of the mill at Kimberly for a record of 100 years of "man days" without an accident. These men are in the plant department of the mill and achieved this record for the third time. Awards were made by H. G. Boon, general manager of the mill.

New Boilers for Kimberly Plant

Three new boilers and two additional steam turbines are being installed at the Kimberly mill of Kimberly-Clark Company. The plant hereafter will have five turbines and an increase in horsepower of 3,000. Numerous repairs also are being made at the paper and pulp mills and several new grinders are being placed in the ground wood department. The work will be completed in the fall, according to F. J. Sensenbrenner, vice president.

Fire at Thilmany Pulp and Paper Mill

Spontaneous combustion was the cause of a fire loss amounting to $3,500 at the Thilmany Pulp and Paper Company's mill at Kaukauna, Wis. The blaze was discovered at an early morning hour last week in the salvage building. The mill fire department prevented the flames from spreading and gaining headway.

Studies Pine Tree Growth in Florida

Growing of pine trees in Florida on a huge scale for use in papermaking is the object of an investigation that has been made by George A. Whiting of Neenah, Wis., owner of several Wisconsin paper mills, while making a stay in the south. His survey is based on information he has received to the effect that pines can be grown with exceeding rapidity in the tropical areas. His idea, according to statements given a southern newspaper, is to develop the paper industry on the east coast of Florida at a point where there would be an ample supply of wood, and thus developing the South American paper trade. He believes the United States can dominate this market because of nearness as against the efforts of Germany to recover the trade of that section.

Safety Conference at Sheboygan

The spring safety conference of the industries of Northeastern Wisconsin is to be held this year at Sheboygan, Wis. The arrangements are already under way, with M. G. Hoyman, superin-

First the Screens Then the Felts Now the Wires

The Alexander-Youngchild Wire Cleaner is a simple, logical development along the same practical lines as the Bird Screen and the Vickery Felt Conditioners.

Like them its objective is continuous production of uniform quality paper. It helps to accomplish this by keeping the machine wire continuously clean, without shutdowns. Incidentally, it prolongs the life of the wire and helps reduce white water losses.

Ask us to send you a Bulletin.

BIRD MACHINE COMPANY
South Walpole Massachusetts

The Alexander Youngchild Wire Cleaner

100

tendent of the service department of the Kimberly-Clark Company, Neenah, Wis., assisting in the plans. More than 600 men attended the last one, and this one is expected to be even larger.

General News of the Industry

Ground has been broken at Appleton, Wis., for an elaborate new home for H. G. Boon, manager of the Kimberly mill of the Kimberly-Clark Company. The structure will be built of brick and will be in English style.

Serious injuries resulted to Elmer Revoir, an employee of the Combined Locks Paper Company at its mill at Combined Locks, Wis., when he was crushed between felt rolls. His back was fractured and he was badly bruised. Another accident occurred at the Victory Bag and Paper Company, Marinette, Wis., when Michael A. Turvey was burned as the result of hose bursting on an oxygen tank. Flames burst forth, setting his clothing afire and causing severe burns on the body.

Foremen of the Interlake Pulp and Paper Company, Appleton, Wis., gave a dinner this week for E. M. McCourt. The guest of honor was promoted from foreman of the Interlake mill to employment manager of the Consolidated Water Power and Paper Company at Port Arthur, Ont.

Another farewell party was given at Peshtigo, Wis., several days ago for Mr. and Mrs. Jack Apple. Mr. Jack recently resigned as superintendent of the Peshtigo Paper Company and left for Franklin, Ohio, where he will engage as mill superintendent for the Howard Paper Company.

Still another farewell expression was that given Mr. and Mrs. A. G. Stone of Marinette, Wis. Mr. Stone formerly was with the Marinette and Menominee Paper Company and has become plant superintendent of the mill of the Continental Paper and Bag Mills Corporation at Rumford, Me. Foremen, superintendents and heads of departments gave the couple a silver water service, and foremen of the Menominee mill presented a fountain pen and pencil.

Roofing Concerns to Merge

LOCKPORT, N. Y., April 4, 1927.—Announcement was made last week by the Lockport Paper Company, of this city, through its president, Wallace I. Keep, that arrangements are being completed for merging the local concern with the Beckman-Dawson Roofing Company, of Chicago.

Stockholders in the Lockport Paper Company are exchanging their stock for stock in the Beckman-Dawson concern and the merger will be in effect in the near future.

The Lockport Paper Company is one of the city's pioneer industries and its high grade roofing paper and paper shingles have for years been marketed throughout the country.

Two years ago the company's shingle mill was burned with $150,000 losses, but this branch has been rebuilt and is again in operation. Negotiations have been pending for several weeks to merge the plant with the Chicago concern.

Under the merger, the Beckman-Dawson Company will become the holding company for the Lockport Paper Company. While it is understood that there will be some changes made in the plant personnel, President Keep declared that these would not be announced until the merger has been completed.

A. E. Bachman Goes to Mount Holly Springs

Albert E. Bachman, connected with the technical department of American Writing Paper Company, Holyoke, Mass., for the past four years, has been employed by Mount Holly Paper Company, Mount Holly Springs, Pa., as assistant in the mill operation. As the mill makes high grade writing paper and specialties his experience should be a valuable asset.

Mr. Bachman is a graduate chemical engineer of M. I. T., 1921, and was an apprentice for more than a year at Pejepscot Paper Company, Brunswick, Me., before he entered the American Writing Paper Company laboratory in 1922.

Now Commercial Paper Corp.

[FROM OUR REGULAR CORRESPONDENT]

SAN FRANCISCO, Cal., April 1, 1927.—The Commercial Trading Company of San Francisco, dealer in fine paper, announces the change of its corporate name to one more appropriate to the commodity it handles, and will hereafter be known as the Commercial Paper Corporation.

It has also moved its offices and warehouse to a new building at 248 Davis street, corner of Clay, just a half block away from its former location, where it occupies practically the entire building with more than double the floor space formerly occupied. Larger stocks and a greater variety are now possible and the added space is necessary to house this increased business.

The company now occupies the three entire upper floors, and basement, for its stock room and warehouse, and one-third of the ground floor, for its sales rooms, in which is included roomy and attractive offices, housing the executive, office staff, salesmen, and order departments. The entire space occupied is 14,000 feet. The building is of ponderous construction and is especially well lighted, having light from two sides and from the top.

The Commercial Trading Company was incorporated in April, 1919, and has since actively engaged in the fine paper business. It handles a number of nationally known and advertised mill brands, as well as their own private brands of bond papers, book, label, and gum papers, bristols, envelopes, and a good many other items which form a part of the fine paper line.

Goes With Mid-States Gummed Paper Co.

CHICAGO, April 4, 1927.—George Goodsir has been elected a vice president and director of the Mid-States Gummed Paper Company, of Chicago, manufacturers of the well-known lines of Mid-States Gummed Papers and Green Core Paper and Cloth Gummed Tape.

It will be recalled that Mr. Goodsir resigned as vice president and director of the McLaurin-Jones Company, of Brookfield, Mass., some time ago. He had long been connected with this organization and had served with them in various capacities for twenty-five years. Mr. Goodsir has been very active in the paper trade associations and is very widely and favorably known. During the past year he was president of the National Association of Gummed Tape Manufacturers.

There probably is no other man in the Gumming Industry that has had a more wide and varied experience than Mr. Goodsir, and there was some speculation among the trade as to his plans when he recently resigned. At that time he announced that he had not yet decided as to what connection he would make, but that he would probably stay within the industry.

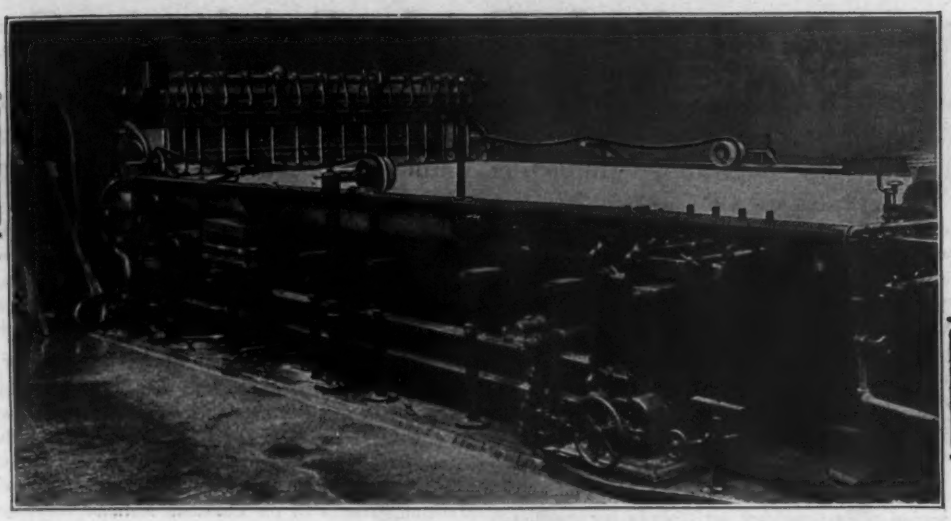
Mr. Goodsir will have charge of the Eastern Division of the Mid-States Gummed Paper Company, with headquarters in New York City. The exact location has not as yet been announced. He carries with him into his new position the well wishes of his many friends throughout the paper trade.

Changes at Union Bag & Paper Plants

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., April 4, 1927.—Several transfers have been announced by the Union Bag and Paper Corporation. Richard Darson, chemist, who has been employed for some time past at the Union Bag laboratory here, has been transferred to the company's plant at Kaukauna, Wis., and left Hudson Falls early this week to assume the duties of his new position. The transfer is a promotion for Mr. Darson in recognition for his valuable service during his connection with the local plant.

Edward J. Hogan, who has been a member of the executive force at the Fenimore Mill for a considerable period of time, has also been transferred to the Wisconsin plant and with Mrs. Hogan left during the week to take up their residence in Kaukauna.



Voith Stock Inlets are Easy to Operate—Actual Cost Low

The simplicity of the Voith High Pressure Stock Inlet is illustrated by the above installation picture. Easy to install and easy to operate, it reduces labor and saves time. The actual cost of the Inlet is low. By increasing production more than 10% in some cases and in others between 5% and 10% when ample drying capacity is available, it pays for itself in a short space of time. A New York mill figured that the Voith Inlet paid for itself in less than 30 days.

Moreover, the saving it makes in preserving Fourdrinier wires alone, is a short cut to lower operating costs in the machine room. Fewer shut-downs are required for wire changes, and, by helping to eliminate foam spots and lumps, the Inlet greatly reduces the number of breaks at the presses, a big time saver. Considered from all angles the Voith Inlet is worth your careful consideration. Write for further particulars today.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Avenue

News Print Outlook Fairly Bright in Canada

Annual Reports Show Business and Profits Unimpaired Last Year Despite Greater Production and Reduction of Contract Prices—Increased Plant Capacity This Year Offset by Healthy Market Conditions—Importing Countries Becoming More Dependent

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 4, 1927.—The question as to whether or not the fears of an overproduction of news print are justified continues to be a subject of discussion in the newspapers here, and in stock market circles. In the course of this discussion an analysis has been given of the annual reports of twelve of the leading pulp and paper companies to show that as far as 1926 was concerned, "in spite of apprehensions in some quarters of excessive production and of the possible effects of the reduction last year in the price of news print of $5 per ton, business and profits were unimpaired." It is admitted that the industry this year faces a substantial increase in plant capacity, but it is held that "offsetting this to some degree is a healthy market situation. Importing countries are becoming more dependent on Canada for supplies, and the tendency in the United States is to reduce news print manufacture rather than increase it."

International Co.'s N. B. Mill

It seems definitely assured that the 500-ton news print mill of the International Paper Company, in connection with the water development at Grand Falls, New Brunswick, will be erected at Dalhousie, in the northern part of that province. So far as is known in the present stage of the negotiations, the company asks for exemption from taxes on all its manufacturing plant and equipment for 15 years; for the following five years a valuation of $250,000 and for the balance of a 50 year period the valuation shall be fixed at $350,000, the company, however, to pay taxes on all buildings not used for the purpose specified and on all houses erected by them for employees, etc., etc. School assessment, it is stated, was discussed on the following basis: First five years, $200,000; next five years, $300,000; next ten years, $350,000; and for the remainder of the 50 year period, $350,000.

It is expected that if negotiations are concluded at an early date the erection of the mill will be started this summer, with an initial unit for the production of 250 tons of news print per day.

Proposed Nova Scotia Mill

From Halifax, N. S., it is announced that the Minas Basin Pulp and Paper Company has been organized with a capital of $100,000, of which about $80,000 has already been subscribed. The proposal is to establish a pulp mill, possibly at Windsor, N. S.

A Pine Needle Industry

A rather curious announcement comes by cable from London to the effect that there is a possibility of establishing an industry in Quebec Province for the manufacture of artificial wool from pine needles. The cable says: "Following the perfection of a method for the production of artificial wool from pine needles by Italian and German scientists a powerful British financial and industrial corporation is in touch with the Quebec Provincial Agent's office here investigating the possibility of establishing an important artificial wool industry in Quebec Province.

"The concern is so interested that already they have obtained special maps of the province outlining the location and extent of the forests from which it is proposed to obtain a supply of pine needles on a great enough scale to justify the erection of factories and mills. The company making the inquiries is capitalized at many millions of pounds sterling."

Development Scheme Merely a Rumor

A dispatch from London says that a recent London report to the effect that a powerful British syndicate is planning to spend $500,000,000 in railway, mining, and pulp and paper development in the neighborhood of Lake St. John, Que., is merely a rumor. Sir George Courthope, who heads the syndicate, is now reported that a grain belt and construction company of which he is chairman simply plans to construct a very small section of railway along the north shore of Lake St. John. "Some day," he added, "further developments may be undertaken, according to the turn of events, but it is equally likely that nothing will materialize."

Tidal Power Co. Applies for Charter

A bill has been introduced in the New Brunswick Legislature for the incorporation of the Petitcodiac Tidal Power Company, with the object of developing the tidal power of the Petitcodiac River, which it is estimated that between 100,000 and 200,000 h.p. can be developed at a cost of $23,000,000. Matthew Lodge, of Moncton, director of the Canadian National Railways, one of the incorporators of the company, states that the proposition has the approval of Dexter Cooper, the promoter of the Passamaquoddy tidal development, who recently made a thorough examination of the Petitcodiac project.

Quebec Pulp & Paper Mills

The Quebec Pulp and Paper Mills, Ltd., has issued a consolidated profit and loss account and balance sheet for the first operating period of its existence to December 31, 1926, covering a period of about nine and a half months. This company is the outcome of the Saguenay Pulp and Power Company and the Chicoutimi Pulp Company and subsidiaries. The net income for the period under review is $75,616, which is considered satisfactory in view of the drawbacks under which the organization was carried on. Total assets amount to $16,549,893. Liabilities are made up of capital stock, common and preferred, $13,928,403; funded debt (subsidiaries), $502,306; liability for securities held in guarantee of wood contracts, 1926-27, $24,000; current liabilities, $445,965; reserves, $1,299,908; surplus, $88,736, and capital surplus, $260,573. The directors report that conditions in the ground wood market for the past three years indicate a tendency toward a declining demand for mechanical pulp. They consider the interests of the company would be best served by the erection of a paper mill, but this cannot be done until additional timber limits have been secured, regarding which negotiations are now being carried on with the Quebec Government. For the present, they add, the prospects for the distribution of dividends cannot be considered to be encouraging.

B. C. Pulp and Paper Co.

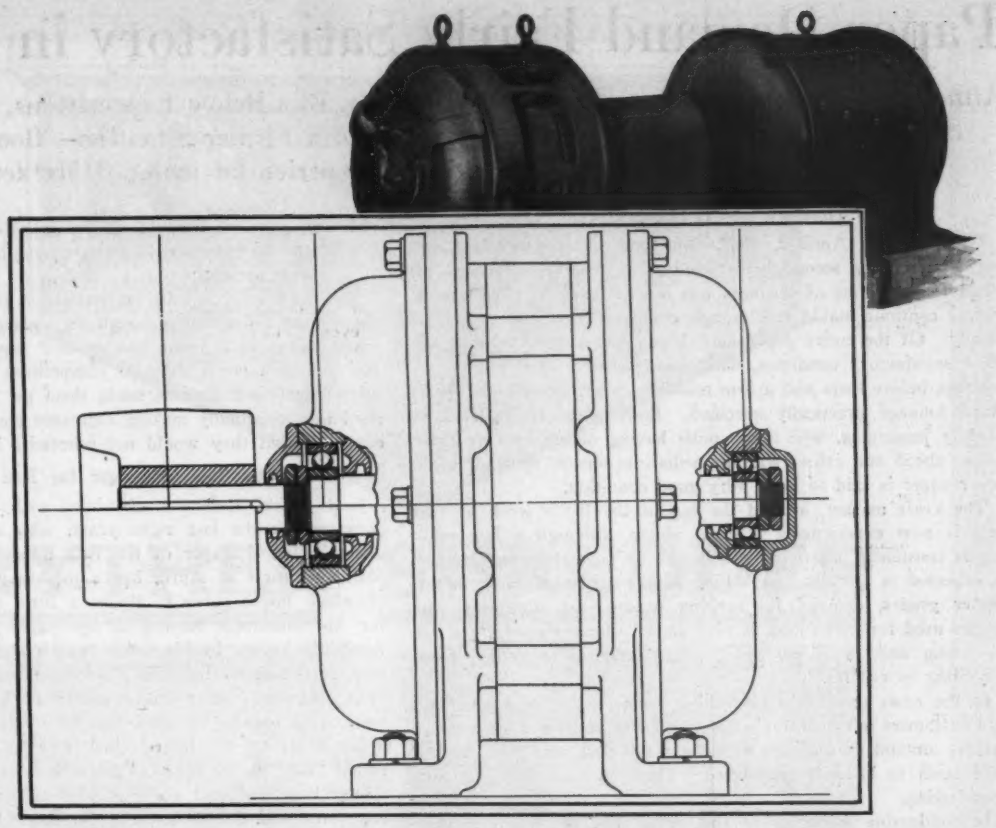
The British Columbia Pulp and Paper Company has issued its first report to shareholders since reorganization of what was formerly the Whalen Pulp and Paper Mills. Profits for the year ended December 31 last are shown at $807,232, while deduction of interest on bonded debt at $320,420, left a balance of $486,812.

From the balance of $486,812 was deducted $374,752, being provision for depreciation; provision for taxes at $31,000 and $38,934 being dividend on the preferred stock, leaving a surplus for the year of $42,126.

The balance sheet shows total assets of $9,262,637, of which $1,674,617 are current, while among the liabilities a total of $364,332 is current, leaving net working capital of $1,310,285.

Weatherford Paper Co. Sold

CHATTANOOGA, Tenn., April 4, 1927.—The Weatherford Paper Company, dealers in paper, paper bags, twine and stationery, has been sold to the Archer Paper Company, 1124-26 Market street, Chattanooga.



New Departure Equipped Electric Motors Will Save Your Money, Time and Production

Because New Departure Ball Bearings are practically frictionless and easily adaptable to effective closures, they will operate in the usual dust and dampness of the coal industry with infrequent attention to lubrication.

Due to the absence of wear in New Departures, centering of the rotor is permanently maintained thereby eliminating costly winding repairs.

Therefore, where continuous, uninterrupted service is vital, New Departure Ball Bearings are more economical than any other type of bearing.

Practical applications are graphically portrayed in our engineering data bulletins which will be sent you without obligation upon request. You will also find many interesting facts relative to New Departure advantages in our booklet entitled "Cutting Your Costs." Send for either or both of these now.

THE NEW DEPARTURE MANUFACTURING COMPANY
Chicago ***Bristol, Connecticut*** **Detroit**

New Departure Quality Ball Bearings

424

Paper Demand Fairly Satisfactory in Chicago

Although Volume of Business Transacted Recently Was Below Expectations, Prices Continue Stable—Board Mills Report Better Tonnage and a Firmer Situation—Book and Cover Paper Mills Active—Slight Slump Experienced in Kraft Market

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 2, 1927.—The end of the month found paper merchants seemingly satisfied with general conditions although the volume of business was not quite up to expectations. Prices continue stable and though comparatively low, volume is steady. Of the entire paper field, board seems to be holding the most satisfactory condition, with manufacturers reporting better tonnage before them and a firm market. Some board mills report April tonnage practically specified. Book paper is reported as slightly improving, with some mills having orders two or three weeks ahead and others with immediate orders in demand, while cover paper is said to be in very good condition.

The kraft market, around the top of the list a week or two ago, is now experiencing a slight slump, although a few mills report constantly improving conditions. A normal spring demand is expected in a short time. Fine papers are steady and, in the higher grades, demand for writing papers, for stationery and grades used for invitations, is very good. Cheaper grades are not so strong and, in a few cases, prices seem to be rather weak according to reports.

In the news print field everything seems to be in good shape and customers with contracts seem to be consuming a very satisfactory amount of tonnage, with the result that conditions in this field seem to be well established. There is very little, if any, spot buying.

In condensing a survey of the entire field the board market seems to be in the most enviable condition while jobbers in the other lines especially report that what orders there are being placed are for rather small amounts and placed for immediate shipment. Card board in coated and uncoated grades, used for index cards, post cards, campaign cards, etc., is reported as being in good demand.

No changes are noted in the generally low conditions in the old paper market. Old paper dealers are quoted as saying that no change in the price of old news and other lower grades will be in effect before six months time.

Corrugated board prices advanced on the 23rd of the month, according to reports given out by local representatives. The substantial rise in prices was expected, due to the fact that corrugated board had been selling too low for a fair margin of profit. Chicago representatives say that the manufacturers took the initiative in the price raising and that the jobbers quickly followed suit.

Postal Rates Revision Deferred

A well known Chicago jobber of book and cover papers in affirming that conditions were rather slow expressed the opinion that those affected were disappointed when Congress adjourned without taking any steps to bring postal rates back to a lower scale and thus determined more than ever to use publication advertising to take care of their publicity efforts. The jobber stated that he expected Congress to eventually lower the postal rates but that, even then, it would mean a long, hard program of re-selling before mercantile establishments would be won back to their former efforts in direct by mail advertising.

W. B. Bullock Addresses Salesmen

The Chicago Divisional luncheon of the Salesmen's Association of the Paper Industry, held March 28, was unusually well attended according to reports. Following the luncheon, Warren B. Bullock, manager of the Import Committee of the Paper Industry, gave an account of the activities of his organization, which was of a nature to demand and hold the interest of the 21 salesmen present.

Mr. Bullock, it is said, emphasized a few important facts, including the belief that although the western mills might not meet direct competition from misclassified paper imports at Atlantic and Southern ports, that the competition given the mills in the East from these sources made them go further west for business, thus eventually making increased competition for the western mills that they would not otherwise have.

New Sales Manager for Rex Paper Co.

J. R. "Jack" Robinson, connected with the Butler Paper Corporation for the last eight years, who assumed the duties of general sales manager of the Rex Paper Company, Kalamazoo, Mich., the first of April, has a mighty interesting past, a part of which might serve to throw a little insight on the reasons for his continued success in the paper field. Jack, as he is familiarly known by his many acquaintances in the paper game, was, according to his own confession, manager of the famous "Bat" Nelson, former lightweight champion of the ring, for a total of 65 fights. To show that he still maintains a lot of love in his heart for his fighter, Jack recently took a lot of trouble to aid "Bat" in his effort to prove his sanity—a fight that arose from "Bat's" alleged theft of the motion picture reel of his epic battle with Ad Wolgast. Jack reports that the famous battler is now completely out of trouble and says that he would surely like to "get hold of the fellow that started the story about the theft." In the comparatively few years that Jack Robinson has been in the paper game his personality and rapid fire business ability has made him well known to hundreds of paper men who, in addition to the many that he knows in the sports game, are, for the most part, known by their first name to the new sales manager of the Rex Paper Company.

Miscellaneous Trade Notes

J. T. Houk, of the Dayton office of the Mead Sales Company, visited the Chicago offices of that organization in the Conway Building one day during the past week.

J. T. Hillyer, of the Whitaker Paper Company, Chicago, spent several days in Peoria representing a part of a bowling team that competed in the American Bowling League tournament held in that city. No reports are available as to the skill of Mr. Hillyer as a bowler.

Chicago paper men and the many acquaintances of Colter Rule, of Dwight Brothers Paper Company, outside of Chicago, are extending their sympathies to him on account of the death of his mother, who passed away March 30, at her home in Cincinnati, after an illness of several weeks.

H. J. Keenan of the Western Newspaper Union, Omaha, was in Chicago on business this week.

Logan Thomson, secretary and treasurer of the Champion Coated Paper Company, returned March 31, to the Champion mills in Hamilton, Ohio, from an extended visit to Florida.

E. R. Jones and wife will return early next week from a tour around the world. Mr. Jones is connected with the Kansas City Paper House, Kansas City, Mo.

Julius Butler, of the J. W. Butler Paper Company is now the proud father of a baby boy, born March 17. Mr. Butler, the secretary of the J. W. Butler Paper Company, reports that both wife and boy are coming along in the best of condition.

RYTHER AND PRINGLE COMPANY
CARTHAGE N.Y.

RYTHER SHREDDER

FURNISHING 2000 DRY POUNDS

OLD BOOKS OLD MAGAZINES

BOARD BROKE SHEET KRAFT

IN 15 MINUTES

WITH 30 HORSE POWER

FOR CANADA REFER

CANADIAN INGERSOLL-RAND COMPANY, LIMITED

260 ST. JAMES STREET, MONTREAL

Ontario Safety Associations' Annual Meeting

K. S. Maclachlan. of Lincoln Pulp & Paper Co., Merritton, Elected President for Ensuing Year

Workmen's Compensation Act and Progress of Accident Prevention Freely Discussed by Prominent Speakers—First Aid Demonstration Staged

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont.,, April 4,, 1927.—K. S. Maclachlan, general manager of the Lincoln Pulp and Paper Company, Merritton, was elected president of the Ontario Pulp and Paper Makers' Safety Association, at the annual meeting, held recently at the King Edward Hotel, Toronto, succeeding R. A. McInnis. H. St. J. Jarvis, of the Don Valley Paper Company, was elected vice president and A. P. Costigane, of Toronto, was re-appointed secretary-engineer for the coming year.

The directors for 1927 are as follows—George Carruthers, Interlake Tissue Mills, Toronto; Col. C. H. L. Jones, Spanish River Pulp and Paper Mills, Sault Ste. Marie; I. H. Weldon, Provincial Paper Mills, Toronto; C. Nelson Gain, Interlake Tissue Mills, Merritton; K. S. Maclachlan, Lincoln Pulp and Paper Company, Merritton; E. K. Robinson, Howard Smith Paper Mills, Cornwall; H. St. J. Jarvis, Don Valley Paper Company, Toronto; J. H. Albert, J. R. Booth, Ltd., Ottawa; J. H. Black, Spruce Falls Power and Paper Company, Toronto. H. G. Schanche, Abitibi Power and Paper Company, Iroquois Falls, and George Gray, Spanish River Pulp and Paper Mills, Sault Ste. Marie, were elected directors from the woods department of the association.

The attendance at the gathering was large and representative and enthusiasm over the good work done during the past year was manifested on all sides. Vice President George Carruthers, Toronto, presided, in the unavoidable absence of President R. A. McInnis, who was detained in New York on urgent business.

V. A. Sinclair, Chairman of the Workmen's Compensation Board for Ontario, spoke, giving a concise outline of the relationship between the pulp and paper mills operating in Ontario and the Workmen's Compensation Act, dwelling more particularly on the co-operation between the Workmen's Compensation Board and the Ontario Pulp and Paper Makers' Safety Association.

Dr. W. J. Bell, Deputy Minister of Health for Ontario, told of the progress of accident prevention in woods operations and the pulp and paper industry, stressing the close union between the sanitation branch of his department and the association. He said that the work in the woods departments and in the operating camps had only lately been inaugurated and that results could not be looked for immediately, but judging from the advancement that had been made in the short time, the industry could look for much greater headway during the current year.

A team from the Lincoln Pulp and Paper Company, Merritton, staged a First Aid demonstration, the problems in connection with the work being set by Captain Debney, of the St. John's Ambulance Association headquarters in Toronto. The demonstration was favorably commented upon by the various members present and the Safety Association is hopeful that it will do much to foster enthusiasm among the other mills in Ontario along the same line.

There will be conducted again this year a First Aid contest among the pulp and paper mills of the province, similar to the one carried out last year. A trophy presented by R. A. McInnis will be the award. The First Aid contest in 1926 was not as successful as it might have been with a larger number of mill entries but this difficulty will be overcome during the current year as longer notice will be given and more time allowed for preparatory training.

The First Aid trophy for 1926 was won by the Fort William Paper Company, Fort William, with a score of 305.5 points. The runner up was the Lincoln Pulp and Paper Company, Merritton, with a score of 289.5 points. Both of these results were out of a possible 362 points.

General Market Conditions Good

The paper market continues good and the printing industry is getting busier with spring trade. In bond and ledger papers, a better class is being sold and business generally is on a higher level, which is very satisfactory to the jobbers, who report that the volume of turnover for the first three months of the present year will exceed that of the corresponding period of 1926. Some readjustments on resale prices between wholesalers and retailers have just taken place on wrapping papers, representing a downward trend averaging five per cent on kraft, fiber and No. 2 kraft. "B" manila and gray rag are not affected in any way and remain as they were. The changes are due to prevailing competitive conditions in the coarse paper market which have been in evidence for some time past. The paper bag situation was recently improved by an advance of fifteen per cent and is now on a much better basis.

The pulp market is a little weaker, and grinding conditions being ideal this spring, there has been an abundant output of ground wood, which is selling at thirty dollars a ton at the mill, but some purchases have been made lately below this figure. There are no changes in the figure for bleached and unbleached.

Toilet and tissue mills are doing a nice business at the present time. The Interlake Tissue Mills have recently distributed to the wholesale and retail trade an attractive counter display stand, with a cut-out, showing one of their most popular lines which is being featured at the suggested minimum prices, which the company announced some time ago.

The net price list, replacing the long price list, and the one thousand sheet count will come into effect in the paper trade in Toronto in May and the trade is getting ready for the change.

Printing Sales Club Formed

A large number of paper men were present at the recent luncheon and organization meeting of the Toronto Typothetae Printing Sales Club, which is the outcome of the U. T. A. special course in selling printing. Toronto enrolled a larger number of students in the course than any city of similar size in America and the results are very gratifying. The officers elected were President, J. B. Broder; First Vice President, R. M. Barber; Second Vice President, K. G. Anderson; Secretary-Treasurer, W. C. Parsons (Secretary of Toronto Typothetae).

Notes and Jottings of the Industry

J. R. McGregor, of the McGregor Paper Company, Montreal, was in Toronto recently calling upon the members of the trade.

J. G. Gibson, secretary of the Spanish River Pulp and Paper Mills, Toronto, who has been confined to his house for some time with illness, is making good progress toward recovery.

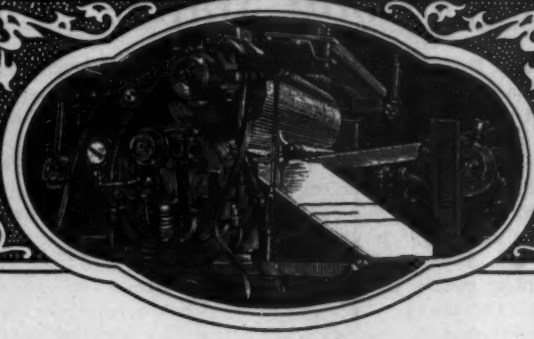
A. J. Bailey, of the Thompson and Heyland Company, Toronto, who are large exporters and handlers of pulp wood, spent a few days lately at Cochrane, the northern headquarters of the firm.

Gordon Campbell, a member of the executive staff of the Dryden Paper Company, Dryden, Ont., was in Toronto last week on business.

H. B. Donovan, sales manager of the Canada Paper Company, Toronto, who was laid up several weeks with illness and underwent a successful operation, is able to be at his desk again and has regained his former vigor.

Colonel C. H. L. Jones, manager of operations of the Spanish

(*Continued on page 44*)



205 Days Wear from a Single Felt

ONE of the largest coated paper mills in the country recently used one Hamilton, Style 18 Press Felt, on its cylinder machine for 205 days—almost seven months.

While this is an unusual record, it is but an indication of the quality inherent in all Hamilton Felts—their longer wear, their better water removal qualities, and the experience that is built into them.

In back of Hamilton Felts is the experience of three generations of felt making—experience that decides the mixture of the wool, the strength and thickness of the threads, and the design of the warp and woof.

It is this experience that is your assurance of getting in Hamilton Felts the low cost per day of felt wear that makes for economical production. It is to your advantage to try out at least one Hamilton Felt.

Ask the Hamilton Felt Man the next time he calls.
He'll give you a felt that fits your individual needs.

Shuler & Benninghofen, Hamilton, Ohio

The Miami Woolen Mills - Founded 1858.

Hamilton Felts

Canton High School Makes Paper Exhibit

The Printing Department of McKinley High School, Canton, Ohio, claims the distinction of being the first high school in the United States to put on a paper exhibit which was for the benefit not only of the students of the high school but of the general public. This exhibit was not a Graphic Arts exhibit in which the printing department showed what its students did in their classes, nor was it an advertising undertaking of any kind. It was purely an educational undertaking with the idea of having a small paper exhibit in the print shop room. The idea grew, however, until finally it was decided to have a real paper exhibit in which the general public might become interested. The Modern Paper Exhibit opened on January 31 and closed February 25. Five afternoons and evenings each week between the hours of 3:15 and 5:15 p. m., and 7:15 and 9:15 p. m., the public was invited to view the exhibit free of charge.

Careful Preparation

For nearly three months the printing classes with the aid of many other departments in the high school worked incessantly to perfect its plans for having an exhibit of papers that would be striking, colorful, and so educational that it would live long in the memory of those who viewed it. The Canton Board of Education entered heartily into the idea and furnished all the necessary materials and incidentals to put up the exhibit. They allowed the use of main corridors of the million dollar school building, let the doors be open to the public in the evenings and did everything possible to further the education of paper. The mill department of the school made special bulletin boards of beaver board, painted black with frames painted silver. They also made stands two feet high to hold the bulletin boards which made it possible to use both sides of the boards. The copy for the pamphlets and other advertising was written by the English department, the hangers for the wall displays were made by the Sheet Metal department, the running of the films in connection with the exhibit was taken care of by the Visual Education department, the evening printing school classes did some of the make-up and printing of the advertising for the exhibit, and much of the correspondence connected with the exhibit was done by the Commercial classes. It was possible, during the time of the exhibit to have several films on the subject of paper for the benefit of the student body; to have the editors of the local papers talk on newspaper work; and to have an out-of-town speaker, M. F. Dice, vice-president of the Commercial Printing and Lithographing Company, Akron, O., give a talk on the subject of "Paper."

Over Fifty Mills and Dealers Represented

Over fifty mills and paper house dealers contributed to the exhibit. Besides the newspapers, eleven local printing, engraving, electrotyping and lithographing houses made displays.

Step by step, paper making, both of rags and wood, was depicted through pictures, bottled ingredients, booklets, and pamphlets telling of trips through paper mills. Stress was laid on telling how enameled, coated and uncoated papers were made; the value of colors in papers and also the various styles of printing were illustrated profusely. Many foreign papers, both handmade and mold finish papers, were shown. Local exhibits went into detail telling of the A B C of photo-engraving. They showed actual specimens of commercial work in color processes and showed samples of the different kinds of paper and the specimens of work done on these kinds of papers. Plans have been formed to supplement the exhibit with further talks by business men connected with the printing trade, to make trips to the different newspaper offices, to visit the local lithographing establishments and engraving and electrotype shops and finally to make a trip out of town to one of the paper mills.

At the present time plans are in the making for one of the leading engraving houses of Canton to put on a lecture, including fifty-four slides, showing in detail the photo-engraving business and its process. This lecture will be held at the high school, and all local printers, their friends, and the printing classes, will be invited.

Generous Cooperation

The paper exhibit was a success due, to a great extent, to the hearty cooperation and generosity of the exhibitors who did everything within their power to aid. From many, answers came back that the unique idea was worthy of being copied by other schools, because it was the real way of teaching the subject of paper making. In all exhibits, the letters from each exhibitor was posted because of much valuable information that would not have been told otherwise. Talks were given before the local men's clubs, many pieces of literature were mailed to out-of-town schools, posters were made and distributed among the business establishments in all parts of the city, and many invitations were sent out to the surrounding districts. The Canton Foremen's Club alone sent out over one thousand invitations. It was the plan to have many of the grade schools visit the exhibit and in numerous cases this happened. From the attendance and the interest taken in the exhibit those in charge felt well repaid for their efforts.

Some Outstanding Exhibits

Through the courtesy of the Japan Paper Company, New York City, mold and hand-made papers of foreign make were shown from the following countries: China, Japan, Germany, England, France, Italy, Korea, Holland, Sweden, Spain, and Czecho Slovakia. The batik paper from Germany and beautiful specimens of marble paper from France attracted particular attention. In all cases a printed specimen showing the uses of each paper commercially was shown as also a short resume telling of the origin and history of paper making in each country.

The Millcraft Paper Company, Cleveland, and Toledo, Ohio, had an exhibit that ran in monetary value up in the hundreds of dollars. Many of the samples of paper shown were of the highest grade possible and the coloring and texture very interesting.

The S. D. Warren Company, Boston, Mass., had as complete a display as it was possible to make. It was through this company, by generous supply of samples that the idea was conceived of opening the exhibit to the public. Its advertising materials, its paper making displays and the many different kinds of papers of which it is the manufacturer—showing as complete a line as one could desire in such an exhibit, caused untold favorable comment on its displays.

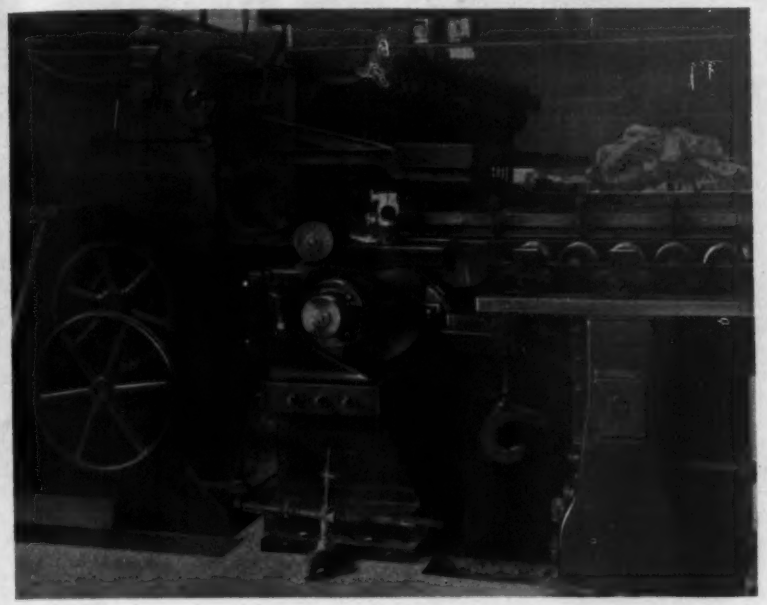
The Hammermill Paper Company, Erie, Pa., left nothing undone to make its exhibit educational and inspiring. Its large drawing of the Fourdrinier paper making machine, log with bark on, log with bark removed, bottled chips, bleached pulp from the bleachers, pulp from the digesters with the knots showing, colored pulp from the beaters, a folder called "The Story of Hammermill Bond in Pictures," picture of the woods showing spruce trees, a chipper, view of Hammermill, a digester and a beater. Also a complete set of working kits and small sample books made up a complete exhibit of its papers.

The Beckett Paper Company, Hamilton, Ohio, had some of the finest pieces of embossed work ever done on cover stock or paper. Its displays of the possibilities of gold printing attracted much attention; its displays of Buckeye covers showed all manner of typography and with its extensive line of actual productive work its good display was an education itself.

A copy of the *New York Times*, printed on one hundred per cent rag paper, was of interest.

A raised map of the state of Ohio, exhibited by W. E. Gilmore, of the McKinley High School faculty, showed to what unusual uses paper could be put.

The James White Paper Company, Chicago, made part of its



Notice that the shaking breast roll is built as an entirely separate unit. In changing a wire the roll itself drops down into the hook you see hanging from the end of the table roll section. The frame is moved out. The result is that instead of only a few inches of stretch space for the wire there are several feet.

"The Shaking Breast Roll"

The combination of a shaking breast roll with a non-shaking table roll section and our patented Formation Table does give a better formed sheet at higher shaking speeds—by actual test.

Two tests were made on a 50-lb. sulphite bond sheet. At 175 revolutions of the shake the average Schopper test was 3.32. On the same sheet with the shake making 230 revolutions the average test was 4.52. At the higher speed of the shake there was a 37% increase in the average tensile strength.

With the new principle of shaking the breast roll as expressed in the Champion Fourdrinier you can increase shake speed to more than 400 revolutions a minute—an increase of better than 100 per cent.

The result is that there is better formation. The fibres criss-cross with each other more completely than they've ever done before. You produce a stronger, superior sheet of paper.

Why not let us tell you the complete story of this new and better Fourdrinier, the biggest step forward in paper making since the invention of the first Fourdrinier.

"Changing a wire will now be easy"

No longer is the prospect of changing a wire something to be dreaded. A crew of men who had never seen this construction put on the first wire in one and one-half hours. No one from our shop was there to help—it wasn't necessary.

All of the equipment needed is on the machine—always; there are no beams to lay down; no wrenches or special equipment are required.

The Fourdrinier is moved out to the front side in three sections on tracks set into the floor.

The unwound wire is placed in carriers on two overhead cables permanently supported from the machine sills. The wire is looped and the separate sections returned to operating position.

An experienced crew should change an 80 ft. wire in thirty to forty-five minutes.

The Black-Clawson Company

HAMILTON, OHIO

Export Office:—15 Park Row, New York City

Builders of highest Quality Paper and Pulp Machinery.

Patentees and sole builders of Vertical Dryers and Champion Fourdriniers.

BLACK-CLAWSON

CHAMPION FOURDRINIERS

Built with Machine-Tool Accuracy

display a study on constructive cover designing with charts which showed the impression color makes according to its intensity with which it is applied.

The American Type Founders Company, Jersey City, N. J., had an exhibit dealing with the composition of type, how it is made and the type mold.

In an easily understood manner the West Virginia Pulp and Paper Company, New York City, showed step by step in pictures the making of paper. Also its Westvaco Inspirations, taken apart as they were and mounted brought forth all the possibilities of its different lines of papers and gave the artist, the engraver, and the printer much to think about.

M. H. Birge & Sons, Buffalo, N. Y., showed many beautiful samples of wall papers, including the different grades of stocks upon which the displayed papers were printed. With this exhibit were pictures of machines showing this particular process of printing and information concerning the wall-paper business.

The Champion Coated Paper Company, Hamilton, Ohio, exhibit showed in photographic detail with non-technical description the important elements of modern paper making through its books, "The Paper Machine," "The Beating Engine," and "The Coating of Paper." It included in its exhibit its book, "The Foundation of Quality," which dealt in detail of its organization, service, and equipment. In using these books the company sent enough copies that it was possible to separate the sheets and mount them so that one had all the information before one without thumbing numerous pages. Its exhibit included many of its coated and uncoated papers as also a very readable story of the paper-making business.

The A. M. Collins Manufacturing Company, Philadelphia, Pa., sent along for its display a portfolio collection of specimens that included samples of work on Laidstone Book Paper, Translucent and Blank and on Castilian, Algerian, Librarian Cover Papers. This exhibit was of great value and with the way it was arranged attracted wide attention.

How Some Canton Firms Showed Their Displays

The Old King Cole Company.—One of the most attractive and elaborate displays of the entire exhibit. Vases, five feet in height; animals, shields, and busts all made through the paper mache manner.

The Boyer-Buchman Company.—Specimens of productive work from their regular line of business.

The Art Printing Company.—Displays showing many different kinds of paper and printed specimens done in its shops on the same kinds of paper.

The Canton Engraving and Electrotype Company.—Pages from some of the many school annuals that it has orders to print this year. It showed a large number of school annuals that it has produced for schools in all parts of the state on display, in addition.

The Northern Engraving Company.—A display that took in all the possibilities of photo-engraving and specimens of work in all classes with a story of the photo-engraving business in detail. An exhibit that was on par with any similar exhibit shown anywhere.

The Roller Printing and Paper Company.—Large framed specimens that showed beautiful effects of colors from their regular line of work.

Caxton Printing Company.—Framed specimens of its work in black and white and color work, including a large folder produced by this company and which was of fifty selected for its artistry and craftsmanship from among 1,500 specimens of printing submitted to the Graphic Arts Leaders' exhibition held in Philadelphia, Pa.

Among the Exhibitors Represented

The following mills, paper house dealers, etc., aided in the exhibit: The Alling & Cory Company, Pittsburgh, Pa.; American Type Founders Company, Jersey City, N. J.; Art Printing Company, Canton, Ohio; The Ault & Wiborg Company, Cincinnati, Ohio; The Beckett Paper Company, Hamilton, Ohio; M. H. Birge & Sons, Buffalo, N. Y.; Baer's, Canton, Ohio; The Boyer-Buchanan Company, Canton, Ohio; Butler Paper Company, Chicago; Byron Weston Company, Dalton, Mass.; Canton Engraving and Electrotype Company, Canton, Ohio; Caxton Printing Company, Canton, Ohio; Charles Eneu Johnson & Company, Philadelphia, Pa.; The Champion Coated Paper Company, Hamilton, Ohio; Chemical Paper Manufacturing Company, Holyoke, Mass.; The Cleveland Paper Manufacturing Company, Cleveland, Ohio; A. M. Collins Manufacturing Company, Philadelphia, Pa.; The Commercial Printing and Lithographing Company, Akron, Ohio; E. L. Conyers, Canton, Ohio; Crane & Company, Dalton, Mass.; The Cromwell Paper Company, Chicago; Dennison Manufacturing Company, Framingham, Mass.; District of Columbia Paper Manufacturing Company, Washington, D. C.; The Educational Supply Company, Painesville, Ohio; Esleeck Manufacturing Company, Turners Falls, Mass.; Film on White Paper, Fox Film Company, Cleveland, Ohio; A World of Paper (two reels), History and Manufacturing of Paper, General Electric Company, Cleveland, Ohio; Hammermill Paper Company, Erie, Pa.; Hampden Glazed Paper and Card Company, Holyoke, Mass.; Hampshire Paper Company, South Hadley Falls, Mass.; Holyoke Card and Paper Company, Springfield, Mass.; The Howard Paper Company, Urbana, Ohio; Japan Paper Company, New York City; Kalamazoo Vegetable Parchment Company, Kalamazoo, Mich.; The Library of Printed Specimens, Chicago; Lincoln Printing Company, Canton, Ohio; The Martin Cantine Company, Saugerties, N. Y.; Millcraft Paper Company, Cleveland, Ohio; New York Times, New York City; The Northern Engraving Company, Canton, Ohio; Old Colony Envelope Company, Westfield, Mass.; Old King Cole, Inc., Canton, Ohio; Oxford Paper Company, Rumford, Maine; The Paper Mills Company, Chicago; Paterson Parchment Paper Company, Passaic, N. J.; Peninsular Paper Company, Ypsilanti, Mich.; The Roller Printing and Paper Company, Canton, Ohio; Strathmore Paper Company, Mittineague, Mass.; Strathmore Film on Paper, furnished by the Strathmore Paper Company; S. D. Warren Company, Boston, Mass.; West Virginia Pulp and Paper Company, New York City; and James White Paper Company, Chicago.

To Advertise Alabama's Resources

[FROM OUR REGULAR CORRESPONDENT]

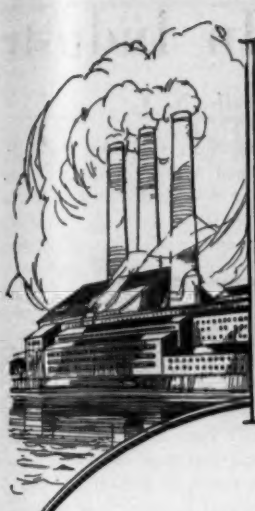
BIRMINGHAM, Ala., April 3, 1927—A nationwide advertising campaign of Alabama's resources will be inaugurated April 1st by Alabama Power Company, in co-operation with Gulf Electric Company, a companion organization, it was announced here today by Thomas W. Martin, President.

Four of the country's large newspapers, the *New York Times*, the *Chicago Tribune*, the *Boston Transcript* and the *Philadelphia Ledger*, will be used in addition to such national trade and financial publications as *Forbes Magazine*, *Textile World*, *American Wool and Cotton Reporter*, *Chemical and Metallurgical Engineering*, *Furniture Manufacturer*, PAPER TRADE JOURNAL, *Brick and Clay Record*, *Iron Age*, *Manufacturers Record*, *Industrial Index*, *Dixie Manufacturer*, and other periodicals reaching the executives of specialized industries.

Copy for the new campaign will range in size from 30 to 90 inches in the newspapers and pages and half pages in the trade journals, and will be the most attractive ever used in the Power Company's national advertising, the announcement states.

"We have found the use of 'printers' ink,' backed by personal solicitation, the best method of getting the story of Alabama's resources and opportunities to investors and prospective manufacturers," the announcement stated, "and we believe that the addition of four large daily newspapers and a number of financial and trade publications will lend added impetus to Alabama's industrial development."

The advertising campaign to be launched has as its background several years of research by Power Company engineers into manufacturing and marketing conditions throughout the State.



Lubrication and Price

It may seem a long step from the lubrication of the machinery in your plant to the price the consumer pays for your product. Nevertheless, lubrication has a very distinct influence on price.

Machinery which is not properly lubricated is sure to wear out prematurely. Repairs and replacements are required and the cost of these repairs and replacements must be added to the price of your product and passed along to the consumer.

Moreover, an incorrectly lubricated machine uses more power in operation than does a machine which is correctly lubricated. This means a larger fuel bill—another item which must be paid by the consumer.

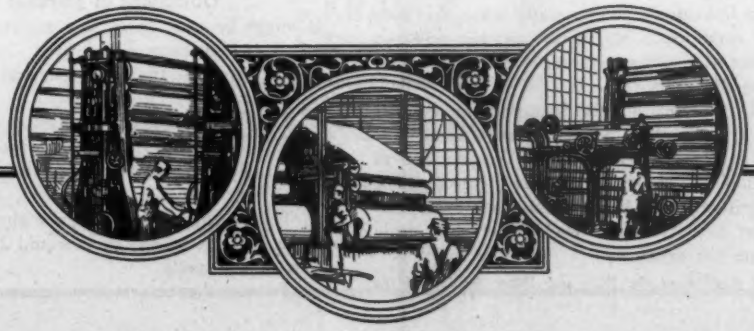
In these days of sharp competition, the bulk of the business goes to the factory or plant which cuts its cost of production to the last possible cent, and gives the consumer the most for his money.

Standard Oils and Greases

can help you to cut your production costs. They reduce friction to the minimum, lower repair and depreciation costs and do away with the premature wearing out of machinery.

Standard Oils and Greases are made in grades to suit the lubrication requirements of all machinery now in use in the industrial world. Our agent will be glad to examine the machinery in your plant and recommend the correct grades.

STANDARD OIL COMPANY
(INDIANA)
910 South Michigan Avenue Chicago, Illinois



Value of Physical Examinations In Industry

F. A. Robinson, Employment Sec., Kimberly-Clark Co., Niagara Falls, N. Y.

All safety committees have an educatonal value, especially for the men who are appointed to membership. Committee service is the best and sometimes the only means of arousing and holding the interest of the men in safety and thus securing from each the necessary cooperation in his own department. Such interest is absolutely essential for maximum success and can be secured only when each man is completely sold on the safety idea.

In closing, I want to emphasize the fact that you will be disappointed with results if the safety program is not wholeheartedly and enthusiastically supported by the general manager and superintendents. Half-hearted interest will mean failure, therefore remember you can not fool the workers. If the management and members of the safety committees are not in earnest and enthusiastic you can not expect the workmen to be.

The time is at hand when the modern industrial plant must conserve all waste in order to live, and if we let our "human machine" run down are we not overlooking the possibility of a big saving?

The "human machine" costs us more than any mechanical mechanism we have. I have been informed that the wages paid to industrial workers, in the average plant over a period of four years, equals the cost of the plant. Just think of that!—in the short period of four years the average plant pays out to the "human machine" the equivalent in money of the entire building and machinery. We go on painting, repairing and inspecting the building, but our "human machine," which costs us the most, is neglected. After the four years the factory still stands and the machinery keeps on operating for years to come, thus making the cost of the mechanical machine considerably less than the "human machine," but the "human machine" gets the least attention.

General Tendency of Industry

I think you will agree with me that the general tendency of industry today is to develop men for tomorrow and that the progressive, alert, keen, ambitious worker of today is the foreman of tomorrow and the executive of the future. But can we develop men to such a degree if they are not in the best of health? In most cases the answer is "no," and in others, "it is possible but improbable," for a healthy mind lives only in a healthy body.

The only way to know whether this body is in good physical condition is to have a thorough check-up made by a competent physician. If we go into our development program without such health service, we are gambling our money; for we may be spending considerable money and time trying to develop men to the high degree of proficiency at which we have aimed, and suddenly find out that the individual has to leave us for a sanitarium, or for a climate more suitable to his health, a condition which should have been known years ago.

Companies are judged by acts of individuals and individuals by their own acts. Do individuals act normally when the body is not in A-1 physical condition? No, is the answer, and you know it to be true. Then it is to the advantage of both company and employee to have medical service.

You will grant me, I am sure, that the best promotion policy is to fill all vacancies from within the organization, whenever possible, but if a man is ailing, or slow, or not steady, due to physical trouble, he will not qualify; and here again medical service would have eliminated him in the first place from employment, or helped him to correct his trouble and thus made him a desirable candidate for promotion.

If you desire leadership tomorrow, you must build it today in men of healthy bodies. When a man is ailing in any way his mind is not on his work; it is divided between the two.

It is only fair to industry in these days of liberal compensation laws to know what an employee's physical condition is before he is given work. I have hired men who appeared robust and looked every bit the men for the job, yet the doctor found them to be afflicted with "T. B." "high blood pressure," "heart trouble," and other defects that disqualified them. These are cases where the company and our Mutual Benefit Association were saved the taking in of an unjust chance.

I can quote you one case where a man upon entering our employ had defective sight in one eye. He was later injured by receiving a blow on the forehead just over the eye and he later claimed defective eyesight as a result of this blow. His doctor found defective sight and stated that it could have resulted from such a blow, but we were able to prove through the record of his examination at entering our employ that the defective sight was present at that time and the case was dismissed, with a saving to the company of about $600. I could quote a number of similar cases, as can anyone having to deal with compensation cases where there is physical examination upon entering the employ of the company, where the company has been saved a considerable sum of money.

Employee Benefits

The employee benefits by such medical service also. Whenever we make an examination the doctor gives the employee, or prospective employee, a card stating thereon his ailments and advising him to consult his own physician, or a specialist, as the case may be. Many of our employees have used this service to their advantage by having their defects corrected. As you know, good eyesight is a necessity in the paper industry to distinguish the various colors, etc., and a color-blind man, or one with poor eyesight, would soon get the company in bad as well as himself and thus retard his promotion.

Much emphasis has been placed in the past upon safeguarding all hazardous machinery, equipment and conditions. The importance of this factor in accident prevention can not be overestimated. But let us bear in mind that when a plant has been 100 per cent guarded we have only insured against the occurrence of 10 per cent of the preventable accidents. We are not safety boosters when we put men to work with any ailment that might be the means of causing an accident. It is not just to the man or the company, and the only way we are going to find these defects is through physical examinations. I do not say that we should never employ people who are not 100 per cent physically fit; but I do say that if his trouble can be corrected and he is willing to have it corrected, then he should be given a chance.

Objections of Physical Examinations

It might be well, here, to consider some of the objectives of physical examinations, which are:

1. To ascertain the exact physical condition of employees at time of hiring.
2. To prevent contagious diseases from getting into the factory and being spread among the present force.
3. To place workers in jobs for which they are physically fitted.
4. To prevent workers in poor physical condition from entering the factory, where they would be a danger to themselves, others, and property.
5. To use the information learned through the examination

* Presented at the annual meeting of the Pulp and Paper Section of the National Safety Council.

STRENGTH and SECURITY

WAYAGAMACK

KRAFT PULP

UNIFORM IN QUALITY—ESSENTIAL FOR STRENGTH

THE PULP and PAPER TRADING COMPANY

21 East 40th St., NEW YORK, N. Y.

Sole Sales Agents for United States for

CANADIAN KRAFT, Ltd. THREE RIVERS, CANADA

For Quality Papers Use

A-1 BLEACHED SULPHITE PULP

Mills at Borregaard, Norway

E-B BLEACHED SULPHITE PULP

Mills at Edsvalla, Sweden

VESTFOS EASY BLEACHING SULPHITE

Mills at Vestfossen, Norway

KRONSTÄDTER STRONG UNBLEACHED AND EASY BLEACHING SULPHITE

Mills at Turciansky Sv. Martin, Czecho-Slovakia

NENSJÖ NENSJÖ KRAFT **KRAFT PULP**

Mills at Sprangsviken, Sweden

J. ANDERSEN & CO.

21 East 40th Street NEW YORK, N. Y

Sole Agents for the U. S. A.

for future follow-up to better his physical condition and make better material for promotion.

6. To prevent workers being transferred to jobs for which they are not physically fitted.

A close study of these six objectives will convince you that physical examinations at entry and periodical re-examinations are of mutual benefit to employee and employer alike.

How the Examiner Classes Them

At the Niagara Falls factory of the Kimberly-Clark Company we have such examinations and we do not reject every prospective employee because of some minor ailment. Our medical examiner classes them as follows:

"A"—Those physically fitted for any empolyment.

"B"—Those fitted for any employment, but who have minor defects.

"C"—Those having more important physical defects which would permit them to work in only certain occupations.

"D"—Those physically unfit for any employment.

To get the best results from such service the employee should have just as much privacy as he would have should he go to the doctor's office. The service department should follow up all corrected. In our particular case any employee under 50 years of age may become a member of our Mutual Benefit Association, which costs the employee a very small premium in proportion to the wide scope of the policy; and after a six months membership a number of ailments can be corrected, for the cost of which the association will stand from 50 per cent to 90 per cent. The employees appreciate this and make use of it.

Our examination goes into the applicant's past physical condition relative to the diseases he may have had. This information, we find, is of great help to our nurse in keeping close watch on the employees and preventing any recurrence, if possible, while in our employ.

In 1925 we examined only female help, and out of a total of 288 examinations 16 were rejected, or a total of 5.6 per cent. Exactly half of these rejections were conditional, meaning that any time they had their defects corrected they would be employed. The other half were permanent rejections.

Per Cent of Rejections

In 1926 we examined both male and female applicants. Of the total we found we had 6.3 per cent rejections. Out of the female applicants we had 4.2 per cent rejections and 7 per cent rejections out of the male applicants. One per cent of the total are temporary erjections, leaving a total of 5.3 per cent permanent rejections. It is interesting to note that we had a smaller percentage of rejections among female applicants that we did the male. Further, we found that the average number of defects per man was 2.4 per cent while for the girls it was 2 per cent, which indicates that the female help is in better physical condition than the male. In this connection I might say that we are more strict in our female examinations than we are in the male because of the product they are working on.

We also find that the new employees accepted are in better health than the old employees. In other words, we are building up our organization on a better physical basis. We also find that the female help is more easily sold on the idea of correcting their physical defects.

In 1925 we examined 273 girls and found 119 in "A" class, this being a larger number than usual; but we account for this because of the fact that we had more applicants to choose from at the time of starting up the factory than we have had since. We found 209 defects out of a total of 273 examinations. Through careful check-up by our nurses we succeeded in getting 133 corrections, or 64 per cent of the total defects corrected, which probably put about 100 others in "A" class.

Outstanding Defects

It is interesting to note that out of the total number of examinations, these were the outstanding defects:

35.7 per cent had nose trouble.
93 per cent had teeth trouble.
16 per cent had throat trouble.
12 per cent had skin trouble.
18 per cent had right eye trouble.
16 per cent had left eye trouble.
14 per cent had trouble with arches.

Out of total applicants accepted in 1926, 27 per cent were in "A" class, 67 per cent in "B" class, and 6 per cent in "C" class.

Re-examinations should be made, but just how often depends on the class of workers and the class of industry, as there are factories that have poorer health conditions than others and, naturally, re-examinations should be made more often.

Of course, as it is with safety, production, or any other program, the success of it depends on the management. If they are thoroughly sold it will go over. If they are not, it will not go over.

The Cost Per Employee

Health service, generally called medical service in industrial plants, costs employers $5.14 per employee a year, according to a National Industrial Conference Board survey of 501 plants employing more than a million workers. The report points out that the significant feature of this figure is that it is greater than the annual expenditure of many individuals for medical care and shows that industrial health service is thorough and efficient and, therefore, profitable to all concerned. Public health service is supported by taxation, and so is paid for by those who live under it. Industrial health service is not a tax on the workers whom it benefits. In theory it is a tax on the consumer of the goods produced; since it is a production cost, but in practice it is not even that. As a matter of fact, it pays for itself. Large as the sum of $5.14 per individual worker may appear, it is quite apparent that an extremely small increase in average worker efficiency would balance the account.

The average book on employment gives the cost of turnover as from $50 per person up. If we can save one employee to the company we have off-set the cost of medical attention for approximately 10 employees, or entrance examinations only, of 25 people. (Using the National Industrial Conference Board figures.)

The cost of the examinations generally run from $1 to $2, depending upon the completeness of the examination and the time consumed in making it.

One of the bulletins of the United States Public Health Service stated that the plant with medical service had an 18 per cent better attendance record than those plants without it, due to less sickness.

A Big Point in Selling Service

There is one big point to take into consideration in selling this service to the management, and that is this: By looking around us we will find plants that have had medical service in the way of entrance examinations alone, or more completely for a number of years, and others just going into this field of work, and what is happening? Just this, the plant without such service is getting the physically unfit and suffering from it, either consciously or unconsciously, and it is not keeping that costly human machine up to standard; while the plant with the service takes the "cream" and builds up its force to the point where production costs them less. In these days of high competition can we afford to be without such service?

For further study on this subject I will refer you to:

"Medical Care of Industrial Workers," by "National Industrial Conference Board."

"American Management Association's Bulletin No. 19" on "A "Health Service in Industry," by Clark.

Manual of Health Supervision," by Dr. R. S. Quinby, of The Hood Rubber Company.

Appleton Felts and Jackets

When the Boers were fighting it out in South Africa

THE Boer War is now history, but in 1899 Appleton Felts and Jackets were preferred by leading paper mills in America. For nine years before that event Appleton Felts were in constant use.

Now, for 36 years Appleton Felts and Jackets have been the choice of leading paper mills. Durability and adaptability that only a high grade pure wool felt can give are the principal reasons. The long life of Appleton Felts is outstanding, although accuracy—design—quality—finish—attention to detail—service are other reasons for the wide acceptance of Appleton Felts.

Remember 36 years of felt making experience go into Appleton Felts and Jackets.

APPLETON WOOLEN MILLS
Appleton, Wisconsin

QUALITY SERVICE

Obituary

William A. Tucker

CHICAGO, Ill., April 2, 1927.—The paper field lost a valuable associate and the world at large a mighty fine friend through the recent death of William A. Tucker, secretary of Parker, Thomas & Tucker, well known fine paper house.

W. A. Tucker became ill with pneumonia, Friday, March 18, and died March 25 at noon at his home in Wilmette, a suburb of Chicago. Mr. Tucker was 56 years of age and had been constantly associated with the paper field for 38 years, 17 with the organization of which he was an associate and 21 with the Butler Paper Company.

The funeral, held March 29, from the First Congregational Church of Wilmette, was widely attended by paper men and the floral tribute was one of the most beautiful and sincere expressions of the popularity and esteem in which Mr. Tucker was held by his friends and acquaintances.

While with the Butler interests Mr. Tucker traveled extensively and, in the interests of that organization, established the Sierra Paper Company in Los Angeles. Mr. Tucker also made his home in Des Moines, Iowa, for many years and still held a membership in the Hyperion Field and Motor Club of that city. He was a Shriner and had been cited for the 33rd degree a short time before his death. He was also affiliated with the Westmoreland Country Club and was a member of the Loyal Order of Moose.

Mr. Tucker is survived by his wife, son and daughter.

Dr. August Lendle

Funeral services for Dr. August Lendle, fifty-four, vice-president of the General Dyestuffs Corporation of America and a leading chemist of the textile industry, who died at his home, 30 Greenway Terrace, Forest Hills, Queens, on Tuesday, were to be held at 2 p. m. today at the residence.

Dr. Lendle received his technical education at University of Basle, Switzerland, receiving his Ph.D. degree. He was for a time assistant of Professor Renugius Fresenius at Weisbaden, Germany, becoming associated with Badische Company in 1896.

Dr. Lendle was for many years manager of laboratories of Badische Company in the United States, later becoming identified with Kutroff Pickhart and the General Dyestuffs Corporation.

Robert Henry

Robert Henry, of D. S. Walton & Co., specialists in paper and paper bags, of 132-140 Franklin street, New York, passed away on Monday, March 28. Mr. Henry had represented D. S. Walton & Co., in the New England territory, for nearly fifteen years, and was held in the highest esteem by his associates and by all who knew him.

ONTARIO SAFETY MEETING

(Continued from page 34)

River Pulp and Paper Mills, Sault Ste. Marie, Ont., spent a few days in Toronto lately on business.

A. E. Wickes, President of the Hawk Lake Lumber Company, Cochrane, Ont., who are handling a hundred thousand cords of pulpwood for export and local consumption this year, was a visitor to Toronto during the past week.

K. S. Maclachlan, general manager of the Lincoln Pulp and Paper Company, Merritton, Ont., left last week for Florida and will return with Mrs. Maclachlan, who has been spending the winter in the south.

E. H. Wilkinson, of Wilkinson & Co., paper mills representatives, has returned from a successful business trip to the West, going as far as Vancouver. He is quite optimistic regarding the improved trade outlook in the western provinces.

The new fifty ton straw board mill of the Hinde and Dauch Paper Company, of Canada, which has been built at Trenton, Ont., will, it is expected, begin operations about April 15.

W. H. Craft, representing Wiggins, Teape & Alex Pirie, Ltd., London, Eng., is on his annual business trip to Canada and was a caller on the Toronto paper trade during the past week.

S. B. Monroe, of Kalamazoo, Mich., and other directors of the Provincial Paper Mills, Toronto, whose properties were acquired recently by the Dominion Securities Corporation and are now under the control of Canadian interests, was in Toronto recently.

Hudson River Mill Expansion

[FROM OUR REGULAR CORRESPONDENT]

CORINTH, N. Y., April 4, 1927.—The International Paper Company has had plans and specifications prepared for the erection of an addition to the Hudson River Mill. Construction material is arriving daily and actual work will get under way within a week or two. The addition will be 30 x 35 feet and one and a half stories high. It will be of brick construction.

The building when completed will be used for the grinding of rolls used on the ten paper machines in the main mill. At present this work is being done on the lower floor of the mill. It is planned to have the floor of the new building level with that of the shipping department building so as to facilitate the handling of the heavy rolls. The new building will be constructed with special provision for a maximum of light and air.

With the addition of sixty men to the working force Monday in the grinding room and press department approximately eight hundred employees, the normal force, are now employed. The ten paper machines are running to capacity and all departments are on full time. Additional workers have been put to work also at the pulp mill of the Curtis Manufacturing Company, operated by the International.

For the first time in quite a period all of the pulp presses and grinders at the Hudson River Mill and the Curtis plant are running under full head. For some time past only ten of the twenty pulp presses have been operating at the Hudson River plant. Forty grinders, the full equipment, are now being operated in the two mills, twenty-eight at the Hudson River Mill and twelve at the Curtis Mill. The increased operations have made necessary employment of a number of men to handle pulp wood.

Heavy shipments of pulp wood are being received daily at the I. P. plant, these shipments coming in over the Delaware & Hudson Railroad. A large force of extra men are being kept busy working overtime unloading and stacking the wood. Present activity at the plant here is expected to continue indefinitely.

Paper Concern Buys Oaks Plant

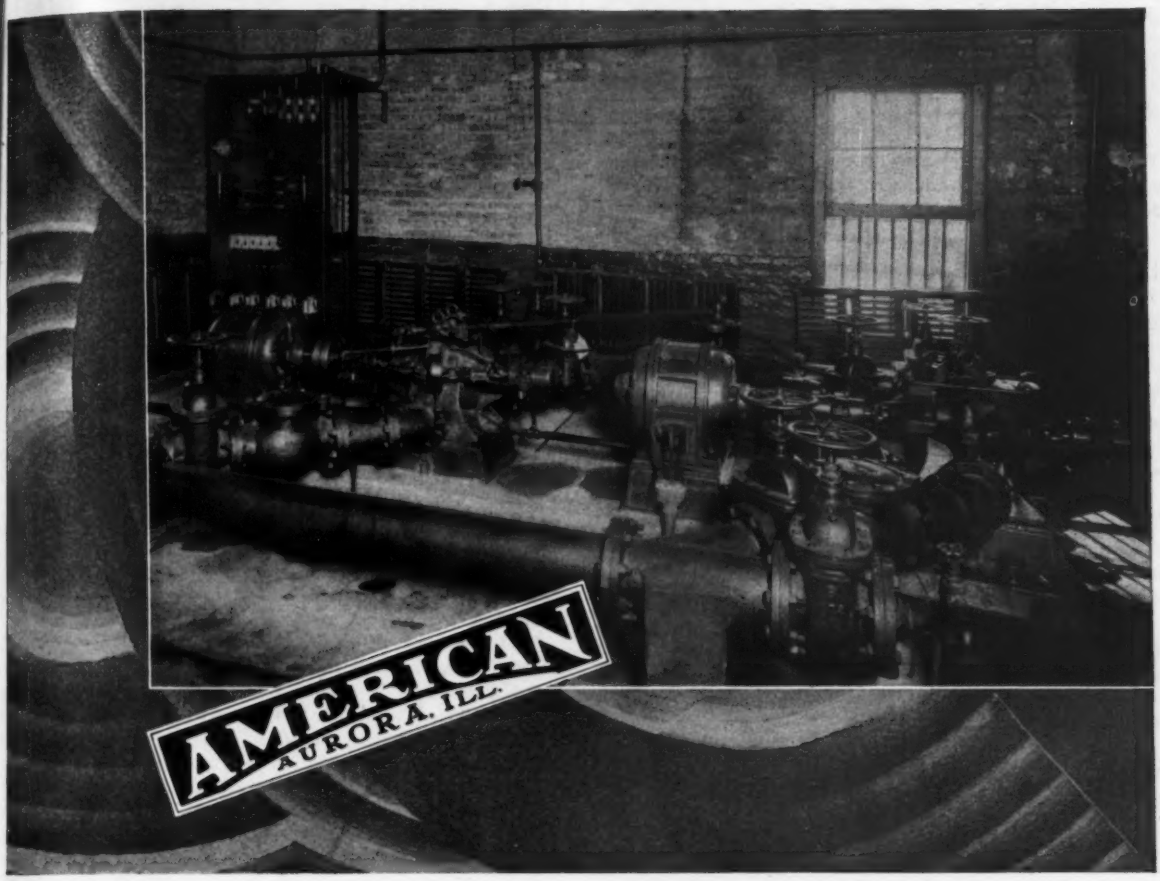
NORRISTOWN, Pa., April 4, 1927.—The plant at Oaks formerly occupied by the Keystone Motor Company and for the past three years operated by the Peerless Paper Mills, has been purchased by the Peerless Paper Mills from K. Remsley Mitchell, of Philadelphia. L. I. Rossiter is the directing head of the paper factory.

The property includes between four and five acres of ground, a large modern daylight factory building containing 40,000 square feet of factory space, office building and railroad sidings. It is situated at the junction of the Pennsylvania and Reading railroads at Oaks.

This transaction insures for Oaks the continuation of an industry which has been operating successfully for three years.

Extensive improvements will be started at once to provide for the installation of additional machinery and modern facilities for manufacturing the paper products.

The sales organization and office force have been strengthened recently by the engagement of experienced men with a view of increasing the output of the plant.



Illinois Central Railroad Company's Pumping Station at Kankakee, Ill.

District Sales Agencies:

Boston, Mass.
Detroit, Mich.
Tulsa, Okla.
Denver, Colo.
St. Louis, Mo.
Salt Lake City, Utah
Vancouver, B.C., Can.
Omaha, Neb.
Birmingham, Ala.
Joplin, Mo.
Atlanta, Ga.
Jacksonville, Fla.
Charlotte, N. C.
Pittsburgh, Pa.
Roswell, N. M.
Philadelphia, Pa.
Kansas City, Mo.
St. Paul, Minn.
Cleveland, Ohio

Branch Offices:

Chicago, Ill.
1615 First Nat. Bank Bldg.
Dallas, Texas
820 Fidelity Union Bldg.
New York, N. Y.
Room 523—
165 Broadway
San Francisco Calif.
635 Mission St.
Los Angeles, Calif.
420 E. Third St.

BACK in 1920 the Illinois Central Railroad Company installed the station pictured above at Kankakee, Illinois. This station consists of two 5" double-suction "American" pumps equipped with bronze impellers and bronze fitted. Each pump delivers 600 G. P. M. against a total head of 105 feet when running at 1750 R. P. M. Both of these pumps are driven by 25-H.P. direct-connected electric motors.

The whole station is automatically controlled and operated through a Sundh panel switchboard and an American diaphragm primer valve. The automatic control of water supply necessitates unusual dependability in the pump equipment used. "American" pumps were chosen for the purpose!

THE AMERICAN WELL WORKS

General Offices AURORA, ILLINOIS *and Factory*

New York Trade Jottings

Sol Ash, Inc., paper stock dealers, of 356 West 11th street, New York, have filed notice of an increase in capital from $60,000 to $75,000.

* * *

William Howarth, president of the Everett Pulp and Paper Company, of Everett, Wash., who is making a business tour of the eastern states, was a New York visitor early this week.

* * *

D. Rothenberg & Sons, Inc., graders and packers of rags, are now located at 611-613 Water street, New York. The new warehouse of the company comprises four stories and basement and is completely equipped as a rag sorting and packing establishment.

* * *

The New York State Public Service Commission has approved new rates of the New York Central (East) on talc, carload, from Emeryville, Hailesboro and Talcville to Schenectady, of 21.5 cents, a reduction of 1 cent per cwt., effective March 20.

* * *

There was a good attendance at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry last Monday, when matters of interest to the members were freely discussed.

* * *

The Robert Gair Company, manufacturers of paper board and boxes, are now located in their new quarters on the 14th floor of the new Graybar Building, at 420 Lexington avenue, New York. Telephone, Lexington, 7300.

* * *

Application to list $4,937,500 first mortgage sinking fund 6 per cent 20-year gold coupon bonds, due June 15, 1946, is pending before the committee on stock list of the New York Stock Exchange.

* * *

C. M. Barton, president of the du Pont Nitrate Company, Wilmington, Del., sailed from New York on the *Santa Elisa* for the West Coast of South America. He was accompanied by Mrs. Barton.

* * *

To take care of their growing trade in the New England territory, the Equitable Paper Bag Company, of Brooklyn, N. Y., manufacturers of specialties in paper bags and envelopes, have opened sales offices at 185 Devonshire street, Boston, Mass., under the sales management of Lawrence N. Caplin."

* * *

K. M. Vaughn has been appointed representative of the Solvay Sales Corporation, of 40 Rector street, New York, in southern Kansas, southwestern Missouri and Oklahoma and will sell products of the Solvay Process Company from his office in the Laclede Gas Building, St. Louis.

* * *

William F. Whiting, president of the Whiting Paper Company, of Holyoke, Mass., accompanied by Mrs. Whiting and Fairfield Whiting, sailed from New York recently on the Cunard liner *Carinthia* to visit the Mediterranean ports, returning via Cherbourg and Southampton.

* * *

Corn Products Refining Company has declared the regularly quarterly dividends of 50 cents on the common and $1.75 on the preferred. The common dividend is payable April 20 to stock of record April 4, and the preferred April 15 to stock of record April 4.

* * *

The Association of Chemical Equipment Manufacturers, which has occupied offices in the Marbridge Building, 1328 Broadway, at 34th street, this city, for the past five years, has leased space on the sixth floor of the Pennsylvania Building, 225 West 34th street. The association expects to take possession of its new quarters April 8.

* * *

The annual Chemical Industries Dinner is to be held the week of the Chemical Exposition, at the Hotel Roosevelt, this city, September 28, under the auspices of the Salesmen's Association of the American Chemical Industry. Invitations are to be sent to all other chemical and allied technical and business associations. The committee in charge was appointed at a meeting of the salesmen's executive committee, March 8, a sfollows:—Chairman, Ralph E. Dorland; tickets and seating, F. W. Summers; notices and invitations, A. L. Benkert; speakers, Williams Haynes; arrangements and menu, William Mueller; publicity and program, Ira P. MacNair.

Biltmore Forest School Reunions

Perry M. Wilson, of the Marathon Paper Mills Company, was in charge of arrangements for the luncheon reunion of Middle-western Alumni of the Biltmore Forest School, held in Chicago, on March 26. Dr. C. A. Schenck, former head of the School, was the guest of honor and speaker at the luncheon, which was preceded by a business meeting at which preliminary steps were taken to form a permanent national organization of the Biltmore Alumni.

J. H. Peterson, of the D. J. Peterson Lumber Company, of Toledo, Ohio, was made active head of the permanent organization and Mr. Wilson is the member representing the pulp and paper industry. Plans were discussed for a national reunion in Asheville, N. C., or vicinity, together with other steps to give the organization a definite objective.

The annual New York reunion of Biltmore Alumni was held at the Fraternity Clubs Building, in New York City, the evening of April 1. In addition to the dinner, at which Dr. Schenck was the guest of honor, an eastern organization was formed to co-operate with the Chicago committee. G. W. Butz, Jr., of the Butz Lumber Company, Wilmington, Delaware, was made permanent head of the Eastern committee.

Dr. Schenck was also guest of honor and speaker at a luncheon of the New York Forest Club, held at the Town Hall Club, on March 31.

Franklin Paper Co. to Install Filter Plant

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 5, 1927.—The Franklin Paper Company has contracted with the Norwood Engineering Company of Florence, Mass., for a new large filter plant of 300,000 gallons capacity and a building permit has been secured from the city engineering department to house the filter which will cost in the neighborhood of $8,000. This is only one of several additions and improvements that are being considered by the company, but the first one to be actually contracted for. Business is excellent with the company. The new filter will allow of improvement in the products of the company.

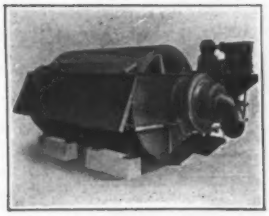
Whitaker Salesmen Visit American Writing

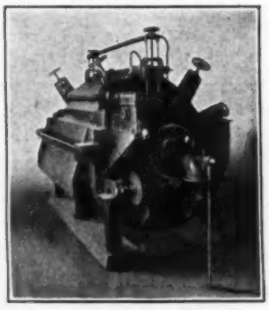
[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 5, 1927.—Salesmen and officials of the Whitaker Paper Company of New York City, distributing agents for the American Writing Paper Company, were the guests Thursday night of officials of the company. The following day the visitors were given a tour of inspection of the local mills of the American Company. At the dinner Thursday night George J. Cadwell, sales manager, presided. Among those present were President Sidney L. Willson, and General Superintendents William L. Nixon and Leon M. Yoerg of the American Writing Paper Company, and James Gilbert, manager of the Whitaker Company.

Many MethodsAre Used For

Lime Mud Washing
Brown Stock Washing
Bleach Washing
Deckering Pulp
(all kinds)





Deckering Ground Wood
High Density Thickening
Reclaiming White Water

BUT

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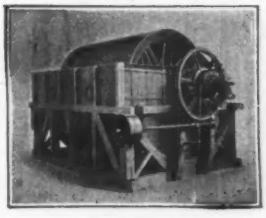
is to use



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PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending January 31, 1927 and for the Twelve Months Ending January 31, 1927 as Compared with Corresponding Months of Previous Year

IMPORTS—PAPER

	January				Twelve Months Ending January 31			
	1926		1927		1926		1927	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Paper and manufactures (total)	.....	$9,810,486	.....	$12,265,321	.....	$59,948,362	.....	$72,390,009
Printing paper—								
Standard news print ....lbs...free	253,906,166	8,691,397	332,204,497	11,028,972	1,446,884,536	51,827,025	1,933,905,265	64,504,884
Imported from—								
Finland	1,579,997	46,136	6,279,092	188,681	15,382,062	466,001	34,995,030	1,037,211
Germany	7,024,671	196,625	943,804	28,571	23,683,480	748,734	5,590,912	169,611
Norway	.....	.....	5,267,118	144,857	14,745,648	445,063	10,172,621	284,135
Sweden	6,773,600	209,843	15,289,647	447,707	63,928,189	1,932,104	51,019,903	1,492,887
Canada	226,453,068	7,853,719	291,464,236	9,766,356	1,290,801,515	46,945,195	1,694,526,356	57,020,012
Newfoundland and Labrador	12,074,830	385,074	12,788,242	447,585	36,788,048	1,242,675	137,129,893	4,487,657
Other countries	.....	.....	172,358	5,215	1,555,594	47,253	470,550	13,371
All other, n. e. s.....lbs...dut.	816,070	41,389	910,216	45,365	6,405,229	320,755	8,031,474	403,688
Grease-proof and water-proof papers..lbs...dut.	107,113	15,045	160,175	31,921	1,185,862	155,196	1,046,617	179,340
Kraft wrapping paper .....lbs...dut.	844,365	35,624	359,651	16,765	6,317,476	277,925	4,273,951	191,237
All other wrapping paper.....lbs...dut.	255,010	15,310	460,855	21,217	1,924,330	110,169	2,585,233	144,993
Writing, drawing, bond, etc.....lbs...dut.	310,535	59,573	201,043	48,130	1,715,433	425,671	1,953,689	530,008
Surface coated .....lbs...dut.	163,053	66,604	202,687	71,375	767,065	270,356	1,071,936	375,915
Tissue paper .....lbs...dut.	198,403	85,476	235,440	124,842	1,156,623	490,846	1,464,610	741,844
Pulp boards in rolls .....lbs...dut.	5,803,437	139,615	3,407,581	84,628	33,630,865	878,361	29,409,877	712,280
Other paper boards, n. e. s.....lbs...dut.	.....	59,067	.....	93,449	.....	339,361	.....	504,556
Cigarette paper, cigarette books and cover .....lbs...dut.	506,250	152,720	649,634	214,775	6,814,672	1,943,580	4,356,044	1,149,090
Hanging paper .....lbs...dut.	277,873	62,844	257,581	74,181	2,704,024	296,489	1,803,856	286,538
Paper boxes .....lbs...dut.	150,728	74,612	165,528	99,177	1,088,194	599,401	1,075,062	481,425
Pulp or papier-mâché and manufactures of, n. e. s. .....lbs...dut.	233,121	33,280	335,308	60,417	.....	.....	795,310	212,617
Duplex decalcomania, not printed.....lbs...free	33,827	8,650	62,947	15,389	201,239	50,831	324,242	80,015
All other .....dut.	.....	269,280	.....	234,718	.....	1,962,396	.....	1,891,579

WOOD PULP

Mechanically ground wood pulp.....ton..free	22,668	648,654	16,409	451,532	159,287	4,460,200	151,786	4,770,643
Chemical wood pulp—								
Sulphite wood pulp.....ton..free	90,901	5,725,056	95,990	6,258,383	427,666	26,809,367	483,738	31,618,961
Sulphite pulp, unbleached .....ton..free	65,005	3,659,670	67,298	3,979,345	295,285	16,197,232	335,990	19,919,540
Sulphite pulp, bleached .....ton..free	25,896	2,065,386	28,692	2,279,038	132,381	10,612,135	147,748	11,699,421
Imported from—								
Finland	5,591	272,323	6,003	329,870	23,969	1,342,618	38,374	2,164,280
Germany	7,252	476,442	6,710	465,380	26,965	1,689,918	38,382	2,666,627
Norway	6,419	509,316	4,613	386,420	31,056	2,411,388	27,661	2,167,348
Sweden	33,783	2,016,290	43,177	2,672,846	129,478	7,778,579	184,136	11,455,571
Canada	31,076	2,094,326	33,441	2,267,920	205,882	13,059,797	179,158	12,175,529
Other countries	6,780	356,359	2,046	135,947	10,316	527,067	16,027	989,606
Sulphate pulp, unbleached (Kraft pulp) .....ton..free	18,838	1,165,114	36,712	2,318,145	154,454	9,358,069	184,616	11,597,155
Imported from—								
Finland	1,650	92,620	590	33,974	7,805	426,796	10,280	573,402
Norway	169	10,864	1,036	62,647	5,239	324,042	5,150	338,194
Sweden	6,083	361,432	23,964	1,486,792	75,671	4,356,569	99,830	6,076,106
Canada	10,398	673,662	10,964	724,051	63,186	4,065,679	68,621	4,567,387
Other countries	538	26,536	158	10,681	2,553	184,983	735	42,066
Sulphate pulp, bleached .....ton..free	2,579	181,333	4,427	301,811	10,376	554,844	8,413	532,205
Other pulp .....ton..free	38	3,176	478	26,016	438	38,077	2,750	189,944

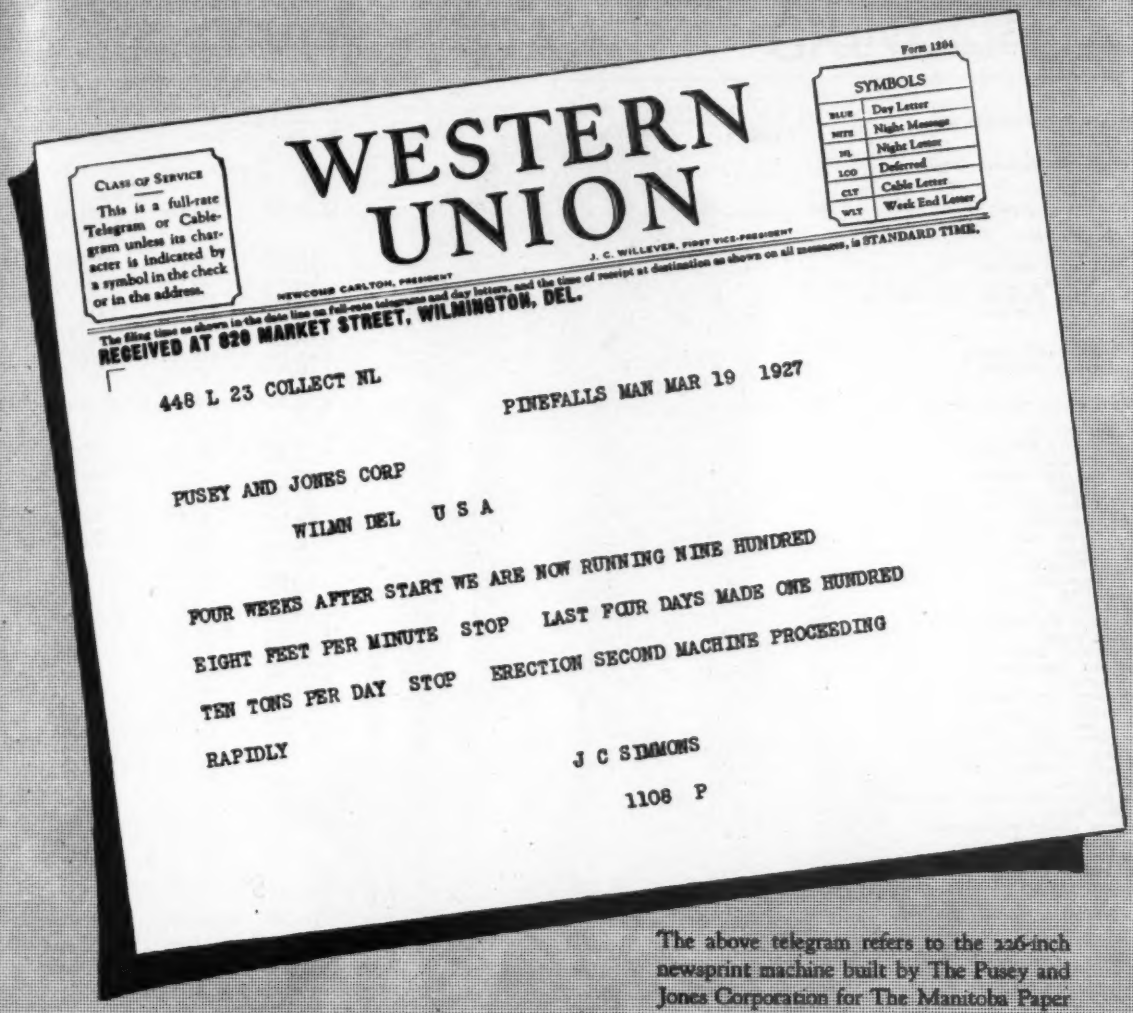
CRUDE PAPER STOCK

Rags for paper stock .....lbs...free	41,902,565	1,108,810	33,528,828	799,879	274,684,670	7,270,181	228,289,329	4,644,184
Waste bagging, waste paper, etc.....lbs...free	10,104,973	212,473	6,933,027	105,323	69,321,974	1,247,076	50,247,620	1,060,572
Old rope and all other paper stock...lbs...free	5,713,037	274,122	5,862,551	147,811	34,847,011	1,556,044	32,787,784	1,223,291

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS

Colors, dyes, stains, color acids, and color bases, n. e. s. .....lbs...dut.	477,854	573,153	516,129	643,532	2,430,817	2,620,443	2,246,702	2,551,577
Imported from—								
Belgium	27,877	46,076	21,928	37,928	44,984	77,394	119,560	184,802
France	29,118	38,541	14,093	19,503	35,894	55,198	77,072	111,374
Germany	229,716	278,254	347,266	418,643	1,198,436	1,302,570	862,356	940,717
Italy	4,867	4,946	5,702	5,554	56,501	67,685	46,253	62,841
Switzerland	165,908	178,640	105,690	136,150	952,961	943,827	861,292	1,017,314
United Kingdom	12,317	12,345	14,587	16,084	59,735	51,064	98,993	106,435
Other countries	8,051	14,351	6,863	9,670	82,306	122,705	181,176	128,094
Casein or lactarene .....lbs...dut.	1,245,600	112,175	3,481,687	399,264	7,301,278	682,807	10,549,638	1,330,269
Kaolin, china, and paper clay.....ton...dut.	24,295	242,290	28,450	294,948	154,225	1,521,643	179,438	1,746,999

(*Continued on page 50*)



Form 1201

SYMBOLS

BLUE	Day Letter
NITE	Night Message
NL	Night Letter
LCO	Deferred
CLT	Cable Letter
WLT	Week End Letter

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its character is indicated by a symbol in the check or in the address.

WESTERN UNION

NEWCOMB CARLTON, PRESIDENT J. C. WILLEVER, FIRST VICE-PRESIDENT

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PINEFALLS MAN MAR 19 1927

PUSEY AND JONES CORP

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J C SIMMONS

1108 P

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"ask us"

THE PUSEY AND JONES CORPORATION

Established 1848. Builders of Paper-making Machinery

[NEWS-PRINT · BOOK PAPER · KRAFT · BOARD]

Wilmington, Delaware, U.S.A.

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PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(*Continued from page 48*)

EXPORTS—PAPER

PAPER AND MANUFACTURES OF	January 1926 Quantity	January 1926 Value	January 1927 Quantity	January 1927 Value	Twelve Months Ending January 31 1926 Quantity	Twelve Months Ending January 31 1926 Value	Twelve Months Ending January 31 1927 Quantity	Twelve Months Ending January 31 1927 Value
Paper and manufactures (total)	.....	$2,135,892	.....	$2,123,682	.....	$12,325,716	.....	$13,380,436
Printing paper—								
News print paper ....lbs.	4,970,061	231,602	2,719,613	121,961	22,137,287	995,339	16,158,927	801,018
Exported to—								
Canada	30,554	3,259	67,446	5,027	438,039	29,254	1,064,629	72,675
Central America	133,031	5,777	54,291	2,874	778,971	42,425	307,296	14,592
Mexico	60,368	3,306	42,391	2,313	910,513	49,527	527,687	25,329
China, Honkong and Kwantung	1,418,134	58,037	308,673	14,455	6,873,807	283,785	2,731,101	127,193
South America	866,475	42,218	775,575	32,111	2,765,699	129,680	3,652,356	156,515
China	1,423,600	67,513	187,870	13,671	4,242,941	188,310	3,717,260	175,974
Japan	332,100	15,135	21,955	932	2,169,827	93,448	80,576	3,289
Philippine Islands	489,425	21,517	1,198,376	47,130	2,829,866	126,260	3,258,662	175,874
Other countries	216,374	14,840	63,036	3,448	1,127,723	52,650	819,360	49,577
Book paper, not coated ....lbs.	1,300,962	120,016	1,644,746	126,581	8,772,783	970,475	9,833,640	892,534
Exported to—								
United Kingdom	7,322	1,102	430	115	57,624	10,191	328,372	27,988
Canada	190,104	20,876	340,192	28,977	942,473	117,470	2,254,027	172,782
Central America	75,013	6,988	35,967	3,896	344,644	35,734	259,840	28,085
Mexico	206,134	18,322	63,682	7,433	900,968	103,910	660,797	67,001
China, Honkong and Kwantung	119,661	10,370	242,735	18,805	2,227,998	217,446	2,042,349	211,151
Argentina	21,397	2,677	80,245	6,740	428,888	50,310	254,546	21,117
Other South America	158,806	15,061	593,643	34,048	1,376,572	139,934	862,666	78,994
China	246,647	19,083	.....	.....	539,824	98,655	450,174	39,996
Philippine Islands	161,718	12,810	84,177	6,734	908,825	82,570	1,069,666	85,556
Australia	18,999	2,324	18,888	4,586	252,408	27,182	358,646	40,384
Other countries	95,161	10,403	164,787	15,247	792,559	87,073	1,292,557	119,480
Cover paper ....lbs.	159,665	24,303	121,853	19,794	610,033	113,902	888,656	147,951
Grease-proof and waterproof paper ....lbs.	108,329	18,305	191,764	24,357	1,145,390	163,727	1,187,147	168,375
Wrapping paper ....lbs.	3,353,004	215,152	2,575,638	189,565	14,636,851	1,063,263	16,291,928	1,064,816
Surface-coated paper ....lbs.	871,202	85,234	691,101	77,824	2,019,772	299,190	2,298,169	320,054
Tissue and crepe paper ....lbs.	288,917	81,005	419,864	84,046	2,070,025	518,203	2,437,478	582,666
Toilet paper ....lbs.	318,191	41,662	413,010	56,925	2,455,554	293,482	2,913,580	352,387
Paper towels and napkins ....lbs.	217,731	23,987	165,901	23,615	1,004,046	147,262	1,097,171	159,548
Box board ....lbs.	4,032,474	112,981	3,820,636	101,606	15,989,415	553,138	27,501,113	795,433
Bristols and bristol board ....lbs.	102,284	17,335	442,081	16,791	691,803	74,340	804,474	80,953
Other paper board and strawboard ....lbs.	2,103,715	115,984	2,521,721	148,315	16,227,008	823,451	21,486,859	1,049,014
Sheathing and building paper ....lbs.	944,486	44,105	936,446	42,319	6,847,672	312,246	6,501,411	271,530
Wall board of paper or pulp....sq. ft.	641,662	25,703	2,511,871	81,161	7,377,884	248,763	14,053,950	492,375
Blotting paper ....lbs.	315,874	37,677	265,694	31,420	1,491,949	186,877	1,376,344	176,615
Filing folders, index cards, and other office forms ....lbs.	124,694	25,393	174,705	38,712	332,282	117,538	354,013	110,049
Papeteries (fancy writing paper) ....lbs.	38,362	13,908	41,008	11,275	332,974	118,450	450,173	124,024
Other writing paper ....lbs.	747,893	113,373	794,071	135,041	2,594,529	465,716	5,665,731	872,682
Paper hangings (wall paper) ....yds.	2,449,588	66,490	2,240,626	52,686	7,344,677	205,030	7,169,147	217,433
Paper bags ....lbs.	998,222	91,083	1,221,840	103,382	6,471,046	575,304	5,669,285	496,817
Boxes and cartons ....lbs.	1,409,459	109,216	1,695,989	103,838	9,769,107	723,228	10,359,300	757,645
Envelopes ....lbs.	199,126	40,135	238,311	40,932	1,191,942	231,477	1,366,526	238,181
Vulcanized fiber, sheets, strips, rods, and tubes ....lbs.	492,201	132,764	364,628	106,562	2,782,345	847,592	2,293,908	712,993
Manufactures of vulcanized and indurated fiber ....lbs.	49,709	15,964	40,422	8,317	191,019	81,972	237,445	85,634
Cash-register and adding-machine paper....lbs.	136,643	15,703	110,555	13,042	846,106	87,443	1,108,258	111,162
Other paper and paper products	.....	316,812	.....	363,615	.....	2,108,308	.....	2,298,547

WOOD PULP AND PAPER STOCK

Sulphite wood pulp ....tons	2,090	141,403	1,522	93,644	11,822	748,651	9,831	613,855
Soda wood pulp ....tons	237	22,277	49	3,053	1,267	110,562	699	53,206
Other wood pulp ....tons	498	92,041	353	11,650	3,656	293,527	4,087	183,318
Rags, and other paper stock ....lbs.	14,974,923	189,970	14,786,015	214,877	86,539,796	1,780,599	92,574,523	1,339,105

PAPER AND PULP MILL MACHINERY

Paper and pulp mill machinery ....lbs.	879,987	262,452	3,534,219	585,911	4,947,204	1,036,664	13,190,519	2,473,312

Big Gift to Forestry Association

A gift of $100,000 has been made The American Forestry Association by George D. Pratt, of New York. The gift is toward an Endowment Fund of $200,000, the income from which is to be used for furthering the Association's work of popular education in forestry and conservation.

Mr. Pratt, who was formerly conservation commissioner of New York, is president of the American Forestry Association, and is widely known for his interest and public benefactions in many fields of conservation. His gift is conditional upon the Association raising an endowment of $200,000, including his own contribution. In view of the fact that the Association already has available $60,000 toward the fund, only $40,000 remains to be raised. It is expected that this amount will be immediately subscribed by the individual members.

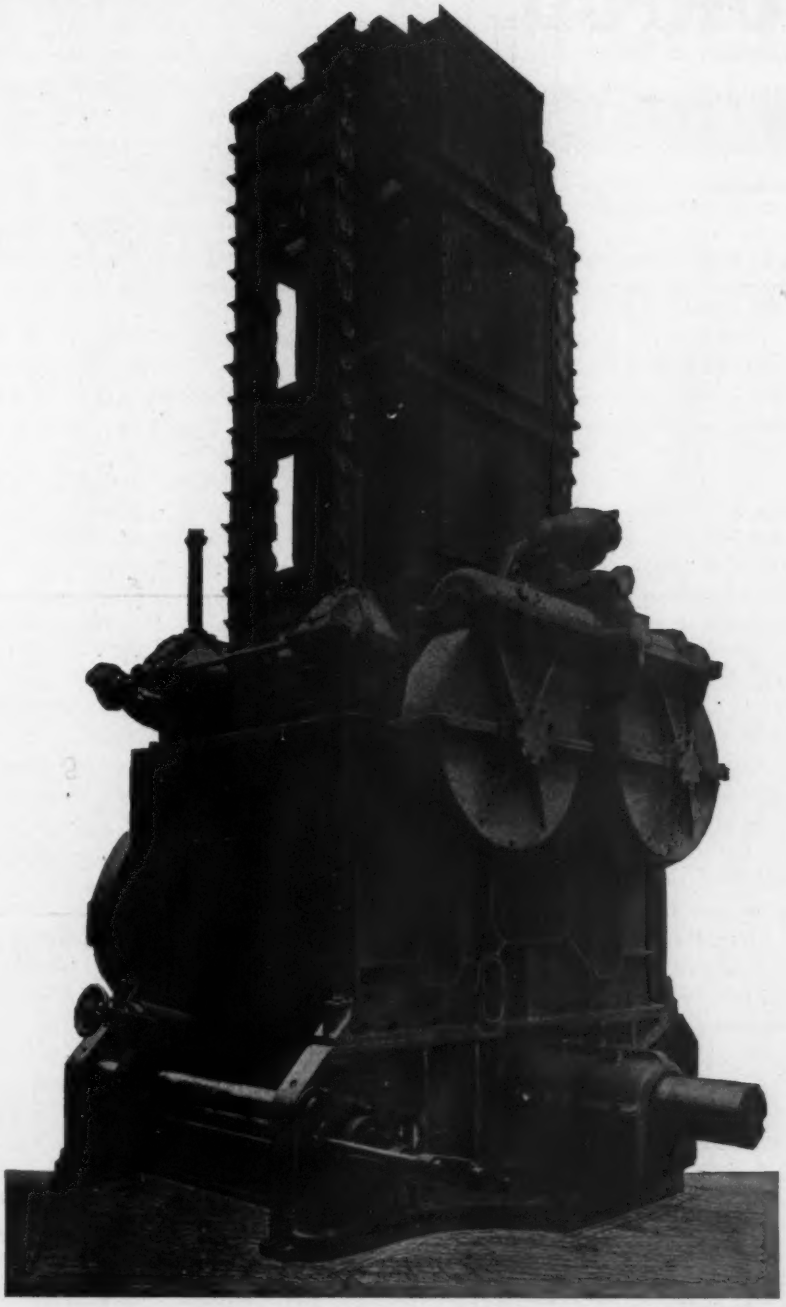
"During the three years that Mr. Pratt has been president of the association," said Ovid M. Butler, executive secretary of the organization, "he has felt that an Endowment Fund is essential to its best work in advancing the public interest in forest conservation. The magnitude of his gift makes the condition one which the members can and will easily meet, and the permanent income from the endowment will strengthen immeasurably the educational activities of the Association."

Index Figure Lower for Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 4, 1927.—Production index figures for the paper industry for February are given at 106 compared with 119 for January and 113 for February of last year, taking 1919 at 100 per cent, according to the Department of Commerce.

The VOITH-WARREN GRINDER



AMERICAN VOITH CONTACT COMPANY, Inc.

280 Madison Ave. **New York City**

PAPER TRADE JOURNAL
ESTABLISHED 1872
With Which Is Combined
PAPER
The Magazine of the Paper Industry
HENRY J. BERGER, Editor

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXIV New York, April 7, 1927 No. 14

THE COURSE OF PRICES

Mr. Laurence H. Sloan, of the Standard Statistics Company, New York, in an interesting article in the financial section of the *New York Evening Post* arrives at the conclusion after a careful study of the situation that the earnings data for 1926 indicate that last year's prosperity was a highly selective one. The forecast that the year's aggregate profits would set a new record for all time was validated chiefly because the word "aggregate" had been used —because the relatively small group of industries which did catch the flood tide of prosperity rode it so "high and handsome" that their results more than counterbalanced those of the group that got caught in the ebb tide.

Mr. Sloan believes that if we pick up the thread of statistical evidence where it ends with the turn of the calendar, and try to apply the analysis of last year's data to 1927 probabilities, we must arrive at the following tentative conclusions:

(1) That on the average profits for the first quarter of 1927 will run lower than during the first quarter of 1926. This assumption is predicated on the belief that both prices and volume of business turnover during the current quarter will prove to be lower than a year ago. It is also predicated on the clear evidence—obtained from a careful study of quarterly earnings reports for 1926 —that a decisive downturn in earnings occurred in the final quarter of 1926, and upon the assumption that this trend has not yet been reversed.

(2) That the lines which showed the most unsatisfactory earnings last year were, in most cases, those which either encountered violent downward movements of prices during the year, or were obliged to contend with an unprofitably low level throughout the year. This applies with especial force to the automobile accessory, automobile tire, can manufacturing, leather and shoe, sugar producing and textile concerns. The "independent" automobile producers suffered chiefly from a loss of volume.

(3) That prices will be the dominant factor in the situation for all lines during the current year. We are certain that a reasonably good volume of business is assured for the first half of this year, and entertain the belief that at no time during the current year will volume fall drastically. The essential question, from the standpoint of business, is the price at which this business will be done.

If the lines which made the poorest showings in 1926 can this year purchase their raw materials or sell their finished goods on more favorable terms, then they have a reasonable expectation of increasing their earnings. If the lines which made the most brilliant showings last year can maintain prices, they should be able very nearly to duplicate last year's performance. If they are unable to maintain prices, a general stepping down in earnings is to be expected.

Prices now constitute the key to the whole earnings structure, and they will be especially significant during the current year for two reasons: (a) On the average, the main trend of prices has now been downward for eighteen months; the present level of average quotations, therefore, is more nearly at the point where it can cause real trouble than it was, say, this time a year ago. (b) To a certain extent the effect of falling prices during 1926 was overbalanced by a temporary increase in volume and an increase in operating efficiency; this program, however, is one which obviously has its limits, and which can hardly be relied upon as a continuous offsetting factor for an indefinite period of time.

FORESTRY BILL FAILS TO PASS

Among the important appropriation bills which just missed passage by Congress because of the final filibuster over the Reed resolution, the McNary-Woodruff Bill ranks first in importance from the standpoint of forestry, according to The American Forestry Association. The Association has been sponsoring the measure for the past three years, and the bill had progressed to a point which assured its final passage in amended form, when the filibuster intervened and blocked all further legislation. Throughout the East, the South and the Lake States the progress of the measure has been watched with keen interest because it would mean to each of these regions a larger program of forest acquisition by the Federal Government.

The McNary-Woodruff Bill was passed by the House in April, 1926, and by the Senate on February 23, 1927. Its original form called for appropriations totaling $40,000,000, to be spent over a period of ten years. The House amended the bill, reducing the appropriation to $4,000,000 and the period of its expenditure to two years.

During the closing days of Congress the House voted on the bill as passed by the Senate, but amended so as to conform to the House bill. The vote was favorable and there remained only the concurrence of the Senate to effect its passage. The filibuster, however, cut short further consideration, and the bill was lost along with other important measures.

Failure of the McNary-Woodruff legislation means that the Federal Government will have to continue its National Forest purchases in the East under an appropriation of only $1,000,000 for the coming year. This was provided in the regular appropriation for the Department of Agriculture. The fact that both Houses voted favorably for an enlarged program, however, is interpreted by The American Forestry Association and other conservative organizations as assurance that it will receive favorable action by the new Congress next winter.

PAPER MILL EMPLOYMENT INCREASES

There was a slight increase in employment in the paper and pulp industry in February over January according to figures just made public by the Bureau of Labor Statistics, Department of Labor.

Reports were received from 213 paper and pulp mills which gave their January employment at 55,897 increasing in February to 55,975, an increase of 0.1 per cent. The payrolls in these same mills also increased from $1,481,577 in January to $1,512,206 in February, an increase of 2.1 per cent.

The bureau also received replies from 177 paper box plants which gave their January employment at 18,787, decreasing in February to 18,429, a decrease of 1.9 per cent. The payrolls in these plants on the other hand increased from $412,089 in January to $414,265 in February, an increase of 0.5 per cent.

May Build Rayon Plant at Ogdensburg

OGDENSBURG, N. Y., April 4, 1927.—There is a possibility that a rayon factory may be opened here. During the past two weeks representatives of a New Jersey concern have been here and looked over the situation.

This concern is a well established institution and does not ask for any concessions from the city, it is reported. It now employs 150, and if the negotiations are satisfactory, the concern will start here.

The Algonquin Paper Corporation is now manufacturing a very high grade of sulphite in its new mill and it is said that this pulp is suitable for the manufacture of rayon silk.

The saving on the raw material would be considerable and it is said that the representatives of the concern were very much impressed with that feature.

Finnish Paper Prices Less Satisfactory

WASHINGTON, D. C., April 5, 1927—Market bulletins issued by the Finnish Paper and Pulp interests during the middle of February characterized the price situation as not altogether satisfactory, says Vice Consul Tolman at Helsingfors, reporting to the Department of Commerce.

Certain classes of news print were in good demand and competition keen. The sale of kraft paper also improved following the decision reached in Stockholm to lower the price by ten shillings per long ton, or approximately $2.17 per short ton. Except for heavy orders from Russia, few sales have been made of chemical pulp.

New Process for Mechanical Wood Pulp

H. Puttaert, 526 Bay street, San Francisco, Cal., has patented a process for making mechanical wood pulp, using one-fifth the power and one tenth the water required to produce a ton of pulp with the grinding process. This new process, it is claimed, produces a better pulp with no screening or slivers, and almost any wood or waste from lumber mills can be used, thereby reducing the cost of producing mechanical wood pulp.

Filer Fibre Adds to Technical Staff

Recently Filer Fibre Company, Filer City, Mich., manufacturing sulphate pulp and kraft paper, engaged Herman Heimann, a graduate of Darmstadt, Germany, and also A. E. Sjoman, a graduate of University of Grenoble, France. Although Mr. Heimann has but recently come to the United States, Mr. Sjoman has been employed since 1914 in a number of mills in Canada, including Riordon Company and Wayagamack Company.

Swedish Wood Prices Unchanged

WASHINGTON, D. C., April 5, 1927—With the exception of a slight decrease in the minimum prices of strong sulphite and sulphate and the price of dry mechanical groundwood, quotations on the Swedish wood pulp market did not undergo any change during the last two weeks in February, according to a report received by the Department of Commerce from Consul General Osborne, at Stockholm.

Boston Paper Market Steady

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 4, 1927.—Steadiness prevails in the Boston paper market, with hand-to-mouth orders for quick delivery, although some grades are tending towards a slackening condition, particularly the lower qualities of ledgers and bonds. In the sulphite, the ledger continues to be quotable at 7½ to 15 cents, and bond at 6½ to 11½ cents, but they are a little bit softer in trend. Some say that rag content ledger is generally low at 15 cents. Undoubtedly it can be bought with a small rag content at that figure. Dealers in fine papers report a fair business although there is no boom. A number had good business during March while others state that business was lower in volume. Reports are that the present month has started off better than early March. Coated paper is not moving so fast as it should, due to the lack of catalogue printing and more offset printing. Kraft paper shows a healthy condition with the prospect of the steady demand continuing, and even in a larger volume. No. 1 grade is quotable at 6 to 6½ cents and No. 2 at 5 to 5¾ cents. A salesman who recently returned from Holyoke states that the business is slackening off among the mills in that city. They secured a fair business in January and February but the amount became smaller in March.

The box board market is steady with at least some of the mills busily occupied. Prices are holding firm. Some of the mills are receiving rush orders. No buying ahead, however, is taking place. Technically speaking, the market is regarded in rather good shape.

In tarred felts, carload lots are quotable in the regular grade at $65.00, but in less than carload lots delivered "on the job" at $72. As is well known, these are produced by only a few companies.

In old papers, prices generally are at the same levels, although if anything there is a softening tendency. Mixed papers continue weak and are down to 45 to 50 cents. Over-issue news is also down and quotable at 55 to 60 cents compared with a previous range of 65 to 75 cents and old newspapers at 45 to 50 cents compared with the previous quotation of 60 to 70 cents.

The market on gunny bagging is much easier. Those who have sold short have apparently covered so that there is little demand at the present time. Gunny No. 1 foreign, is quotable at $1.75 compared with a previous price of $2.00, and No. 1 domestic at $1.75 to $1.87½. Manila rope shows a little more lively tone, but business in this commodity in general is rather quiet. Foreign manila rope is quotable at $3.60 to $3.75 and domestic at $4.00 to $4.50.

In new domestic rags, prices are practically at the same level except that shirt cuttings, new white No. 1, are quotable at 11 to 11½ cents. Silesias No. 1 are quotable at 7 to 7½ cents.

A luncheon meeting of the fine paper division of the New England Association of Paper Manufacturers is to be held at the Chamber of Commerce Tuesday, April 5.

W. H. Cowles, who for the last six years has been New England representative of Dill and Collins Company, has resigned his position, as of April 1, and has become associated with the Fitchburg Paper Company. He will make his headquarters in Fitchburg. Mr. Cowdes is a graduate of the Massachusetts Institute of Technology and the Harvard Graduate School of Business. He is a member of the Boston Paper Trade Association, the University Club, and Ben Lomond Golf Club.

Dr. R. L. Gilkey Presents Athletic Field

George W. Gilkey of the Michigan Paper Company of Plainwell, Mich., writes: "I notice in your issue of March 17, the statement that the writer, Geo. W. Gilkey, presented to the village of Plainwell an athletic field. This report is in error. This athletic field was presented by Dr. F. L. Gilkey and family, of Plainwell."

Are you interested in Sizing Economies?

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Section of the
Technical Association of the Pulp and Paper Industry

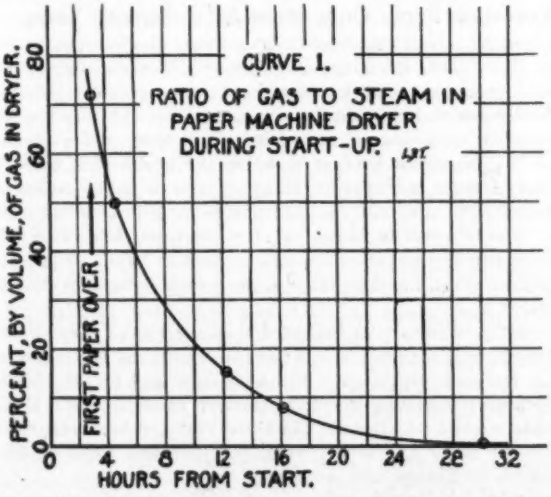
AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

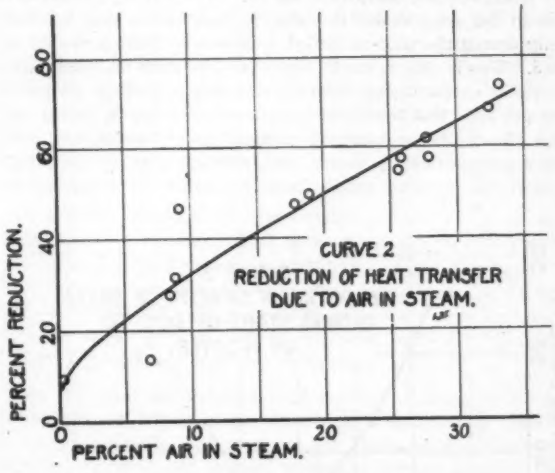
Air In Paper Machine Driers*

By L. D. Tatley [1]

When the drier section of a paper machine is shut down for any length of time, the steam in the driers condenses and quickly becomes replaced by air, which leaks in through the various fittings. When the time comes to start up the machine, the driers contain a little water in the bottom, while all the rest of the space inside of the driers is full of air. When the steam is turned on, it eventually forces the air out through some system of vents, either manually operated or working automatically as a part of the drier drainage system. There is usually a small percentage of air in the entering steam, which must also be removed. There has been so little actual work done to find out anything about the gases remaining uncondensed in the driers, that practically nothing seems to be known of their amount, composition, or quantitative effect.



A number of tests were made on one of the news machines of the Laurentide Company to ascertain some of the conditions actually existing inside a drier. The drier selected was six feet in diameter, and ran, throughout the tests, at a surface speed of from 1,005 to 1,015 feet a minute. In the front head, there was an air vent, which was opened when steam was first turned on and closed when steam started to come out in any quantity. The drier was equipped with a siphon pipe leading to an individual steam trap, in which there was a thermic valve to allow air to escape. A pipe, fitted with a packing gland, was run through a hole in the front journal, so that samples of the drier contents could be withdrawn while the machine was running. These samples were passed into a condenser, where the steam was condensed and measured as water. The trapped gas was withdrawn from the apparatus and measured over mercury. The amount of gas dissolved in the condensed steam was also determined and added to the rest. A number of similar determinations were made on the steam main, to find the quantity of gas entering the driers with the steam.



The claim is often made that the air and steam do not mix in a drier, that the air is forced to the bottom, or remains in sort of lumps surrounded by steam. In an attempt to obtain some evidence for or against this theory, the sampling tube was modified to allow samples to be obtained from three points in the drier: two inches from the bottom, halfway up, and two inches from the top. The percentages of air found in these experiments are given in Table 1.

TABLE 1

Test Number	Sampling Point	Air %
1	Top	2.52
2	Bottom	2.39
3	Bottom	2.32
4	Middle	2.26
5	Top	2.24
6	Middle	2.38
7	Top	2.12
8	Bottom	2.15
9	Middle	2.28
	Average, top	2.29
	Average, middle	2.31
	Average, bottom	2.28

* Paper read at the Annual Meeting of the Technical Section of the Canadian Pulp & Paper Association, Montreal, Jan. 26-27, 1927.

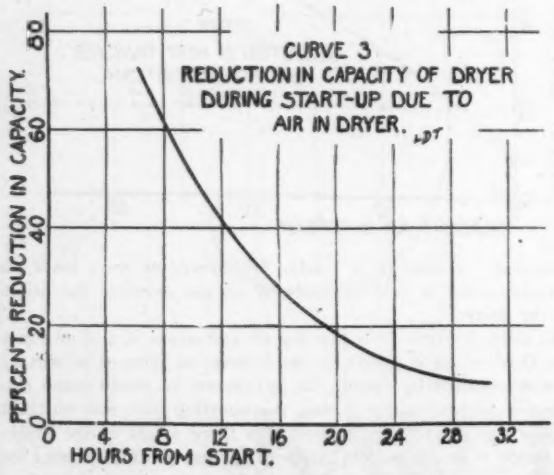
[1] Laurentide Company, Grand' Mère, Que.

These results show that there is no appreciable separation of the air and steam, at least after the drier has been working for several hours.

Other tests were made to determine how long the air remains in the driers. A determination made two hours after the machine was shut down, showed the drier to be full of air under a vacuum of 3 inches of mercury. On starting up the per cent of air gradually fell off as shown in curve 1. Starting with the drier full of air and using the air vent as usual, it takes over twenty-four hours for the gas ratio to drop to its minimum value of 0.2 per cent, at which value it stays for the rest of the run. During this series of tests, the steam entering the driers contained abnormally large quantities of gas, varying between 0.0025 per cent and 0.0050 per cent.

C. S. Robinson,[2] of Massachusetts Institute of Technology, published the results of some tests on the rate of heat transfer in a surface condenser when steam containing various percentages of air was supplied. His results, in a slightly modified form, are shown by curve 2. With only 0.3 per cent of air in the steam, he found a reduction of nearly 10 per cent in the rate of heat transfer. Possibly these figures do not apply directly to paper machine driers; but, assuming for this discussion that his results do apply, it means that a machine working at its maximum capacity would have its output cut about 10 per cent if the steam in the driers were diluted with 0.3 per cent of air. Robinson's figures on condensers are roughly checked by Josse and Schneider's work on economizers, in Germany.

When the values for the reduction in the rate of heat transfer shown in curve 2 are substituted for the corresponding percentages of gas in the drier shown in curve 1, the reduced heat transfer capacity during the start-up period is obtained. This is shown by curve 3. This is only noticed occasionally, as most machines have considerable excess drying capacity; and it is only when the paper is first put over, that trouble is experienced in properly drying the sheet. The driers are generally brought up to temperature with one or 2 pounds steam pressure; and, although they are as hot as necessary, the pressure usually must be raised to 10 pounds or

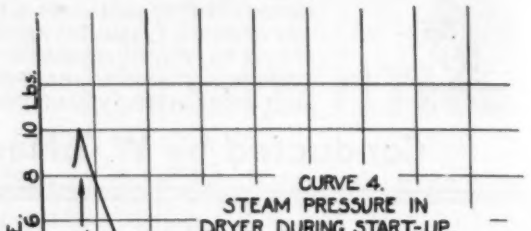


more as soon as the sheet is passed over the machine. This is illustrated by curve 4, which shows the pressure during the start-up under discussion. This curve is plotted from the recording pressure gage charts, with all the small fluctuations left out. The amount of extra heat supplied by increasing the pressure to 10 pounds is negligible; but the heat gradient between the steam and the drier shell rises from 49 degrees to 77 degrees approximately, and consequently the rate of heat transfer is increased around 60 per cent.

[2] Bulletin No. 8, from the Chemical Engineering Department, Massachusetts Institute of Technology.

Shortly before the tests plotted in curve 1 were made a few preliminary experiments were performed without opening the vent in the front head. There seemed to be a little longer time necessary to get rid of the air when the vents were kept closed, but insufficient experiments were made to draw any definite conclusions.

Once the air is in the driers it escapes in a number of ways. Some gets out through the vents, and some through the thermic valves until the gas reaches the same temperature as the steam.



When the temperature of the gas is high enough to keep the thermic valve closed, some still escapes through the small grooves cut for the purpose in the faces of both the valves in the traps. Some is blown past the water valves before they can close after emptying the buckets, and some dissolves in the condensate, even at the comparatively high temperatures prevailing in the driers.

Cornstalk Paper Once More After Twenty Years

In a circular distributed by C. B. Roberts Engineering Company, New York, specialists in commercial development of industrial processes, publicity is given to a process for pulping cornstalks which it is said "has at last solved the problem of commercial utilization of cornstalks after many years of research." This latest process to solve the problem is that of Dr. Bela Dorner of Budapest, Hungary, and as in the others it is designed "to conserve the fast disappearing forests" as well as to afford "direct economic relief to the corn belt farmers." Between the Dorner process and the summer White House in the Middle West, the difficulties of the corn belt farmers should be over.

From the circular it is indicated that a group of New York capitalists has acquired the American rights to the process after a favorable report on it had been furnished by "Dr. John E. Jackson, consulting research chemist of New York City, who has worked on artificial silk since 1904 and has been consultant for many of the largest pulp, paper and artificial silk companies in Europe and America."

According to Doctor Jackson's report "Chemical pulp from cornstalks by the Dorner process has been made up to 99.3 per cent pure cellulose content and in commercial operation it will be produced from 95 to 99 per cent pure."

"The fibers * * * * * * produced by the Dorner process are not only longer than the fibers from wood, but their structure is unique in that the ends of the fibers have a fishhook effect which intertwines to produce a tough and tenacious material."

Needless to add "an advantageous site is now being sought for the initial manufacturing unit. Two locations in Illinois are now under consideration," but doubtless any town showing sufficient evidence of a desire for a mill to make cornstalk paper can have one by making the proper gestures.

Determination of the Fiber Composition of Roofing Felts*

By R. E. Lofton[1]

The Manufacturing and Industrial Research Committee of the Asphalt Shingle and Roofing Association is carrying on an investigation at the Bureau of Standards to determine the relative values of different fiber compositions in the life and serviceability of saturated roofing materials. The program of the Research Committee includes a study of the determination of fiber composition of roofing felts, since it is necessary to know the actual composition of the felts studied and it is questionable if the method usually used for paper fiber composition determination gives satisfactory results with this material. An approximately correct fiber determination of saturating[2] felts is very difficult, partly because of the number, and partly because of the nature, of the fibrous materials used in manufacture. One who has had experience in the microscopical determination of the fibrous constitutents of pulp and paper products has doubtless found that the mental confusion which results from looking through the microscope at a field of fibers is roughly proportional to the number and variation in sizes of different fibers seen. Since saturating felts may be made from almost any animal or vegetable fibrous materials, and are often composed of five or six different materials which may differ extremely in size, as, for example, ground wood and rag or straw fibers, and often contain a considerable amount of dirt of various kinds, the problem of making a quantative fiber determination on this product is often very difficult.

The Procedure

The procedure finally developed for the purpose appears to give good results and it is believed that a description of it will be of interest to paper analysts, especially those dealing with products of this nature. The felts used in the development work were made in the Bureau paper mill. Commercial raw materials were used in carefully weighed quantities and the customary commercial felt manufacturing processes were employed. This makes possible comparison of the fiber compositions of the felts as determined by analysis with their known mill composition, such comparison being of value as it indicates the degree of agreement to be expected between laboratory analytical procedure and mill manufacturing practice.

In preparing the various samples for microscopical analysis, the official method[3] of the Technical Association of the Pulp and Paper Industry was followed as closely as it was practical to do so. Since the characteristics of saturating felts are so different from those of most paper and pulp products, however, the official method of preparing the sample for observation had to be modified in some respects. The methods used for this purpose were as follows:

Preparation for Examination: Small specimens, each about one square inch in area, were taken from different parts of the large samples received from the paper mill. These small specimens having a total area of about 25 square inches from each of the mill runs were placed in small beakers with a few cm.³ of a 0.5 per cent solution of sodium hydroxide which was heated to the boiling point for a few seconds. The sodium hydroxide solution was then poured off, and the felt pieces were rinsed two or three times in tap water, and transferred to larger containers (capacity about 500 cm.³) about half filled with water. The specimen was then thoroughly disintegrated and mixed together by means of a mechanical stirrer similar to those used at soda fountains.

After the fibers had been thoroughly mixed by the method described above, a small portion of the mixture was transferred to a test tube and diluted with water to a fiber concentration of about 0.1 per cent. The fibers and water were thoroughly mixed by inverting and shaking the test tube. A part of the diluted mixture was quickly transferred to a clean microscope slide by means of a dropper consisting of a glass tube 20 cm. (6 in.) long and 6 mm. (¼ in.) internal diameter, fitted at one end with a rubber bulb.

The dropper was inserted into the mixture 5 cm. (2 in.) below the surface, two bubbles of air expelled from the dropper, and the tube filled to a distance of about 13 mm. (½ in.) from the bottom. The contents of the dropper were then transferred to the slide, making four drops on the slide and completely emptying the dropper. This procedure was repeated until the slide was completely and uniformly covered with drops of the mixture, after which it was placed in a drying oven until the water had evaporated. A sufficient amount of the zinc chloride and iodine stain[4] was added by means of a medicine dropper to the dry fibers on the slide and allowed to remain for about a minute, after which time a second microscope slide was placed over the fibers, pressed down, and the excess stain removed by means of filter paper.

Dot-Count Method of Observation: Two or three slides of each sample were examined under a microscope fitted with a mechanical stage and giving a magnification of 100 diameters. The fiber determinations were made by three individuals, one of whom used the estimation method and the other two of whom used a modified count method, which we shall call the "dot-count" method[5] and which is described as follows:

The dot-count method was used because it seems to eliminate the undesirable personal equation which is involved in estimating the relative lengths and sizes of the fibers in the usual count method. In using the former method, a dot or point is placed on the diaphragm of the eye-piece of the microscope. A satisfactory dot or point was made by taking two silk fibers, approximately 0.01 mm. in diameter, from a silk thread, and cementing them at right angles to one another on a round microscope cover glass 18 mm. in diameter. Each fiber was cemented by means of paraffin to the edge of the cover glass and the protruding ends cut off. The cover glass was then placed, with the cross-hairs on the under side, upon the diaphragm of the eye-piece, carefully centered, and cemented in this position with a drop or two of paraffin.

The prepared microscope slide was then placed on the mechan-

* Published by permission of the Director of the National Bureau of Standards of the U. S. Department of Commerce.

[1] Associate Physicist, Paper Section, Bureau of Standards.

[2] "The term saturating felt is applied to those felts which are used as a vehicle to carry and hold various tars, asphaltum or other waterproofing compounds."—Classification and Definition of Papers, by the Committee on Definitions; published by Lockwood Trade Journal Co., Inc., New York, 1924.

[3] Technical Association of the Pulp and Paper Industry, Official paper testing methods, Paper Trade Journal 83: 11 (Sept. 9, 1926), pp. 51-55.

[4] In staining, either the zinc chloride and iodine stain, commonly known as Herzberg's stain, or the calcium chloride and iodine stain, commonly known as Sutermeister's stain, have given satisfactory results. It is probable that there are other stains of somewhat different composition which would be equally suitable for this purpose. The following references pertain to the stains mentioned: Merritt, M. F., Improvements in methods of making the Herzberg stain used in fiber analysis, Paper Tr. Jour. 75: 8 (Aug. 24, 1922), pp. 43-44; Technical Association of the Pulp and Paper Industry, Official paper testing methods, Paper Tr. Jour. 83: 11 (Sept. 9, 1926), pp. 51-55; Sutermeister, E., Chemistry of Pulp and Paper making, John Wiley & Sons, New York, 1920; pp. 389-390.

[5] See Official paper testing methods, referred to above. This method of fiber analysis was suggested by J. C. Case, of Sears, Roebuck & Co., Chicago, Ill.

ical stage of the microscope, and moved in a direct line from end to end across the field of view, each fiber passing under the cross hairs being counted and classified as to kind. The slide was moved side-wise until the field just counted was completely out of view, when the slide was passed lengthwise under the cross-hairs and the fibers counted as before. This procedure was repeated a third time lengthwise of the slide, then three or four times across the slide. From the data obtained thus, the percentages of the various fibers found were computed to the nearest 5 per cent. An average of about 375 fibers was counted on each slide. The official method adopted by the Technical Association of the Pulp and Paper Industry states that not less than 200 fibers shall be counted as a basis for computing the fiber composition of a sample of paper. It is advisable in analyzing this class of material, because of the different kinds and great variation in sizes of the fibers often present, to count a considerably larger number than the minimum number required by the official method.

The analyst who used the estimation method in determining the fiber composition of the saturating felts had had several years experience in estimating fiber composition; the two analysts who used the count method had had comparatively little experience in fiber determination. The data relating to the fiber composition and to the fiber determination of the six saturating felts are as follows:

FIBER COMPOSITION OF SATURATING FELTS[6]

Sample No.		Fiber Composition: Cotton and linen per cent	Wool per cent	Jute and manila per cent	Chemical wood per cent	Ground wood per cent
No. 1	Analyst A	80	10	trace	10	
	Analyst B	80	2	9	4	5
	Analyst C	89	7		4	
	Reported	90	5		5	
	Mill weights	100 per cent rags.				
No. 2	Analyst A	45	5		15	35
	Analyst B	42	3	trace	15	40
	Analyst C	45	trace	4	20	30
	Reported	45	5		15	35
	Mill weights	60 per cent rags, 30 per cent mixed papers, and 10 per cent sawdust.				
No. 3	Analyst A	10	trace		20	70
	Analyst B	8			26	66
	Analyst C	14	1		29	56
	Reported	10			25	65
	Mill weights	10 per cent rags, 60 per cent mixed papers, and 30 per cent sawdust.				
No. 4	Analyst A	60	5	15	5	15
	Analyst B	51	trace	15	11	23
	Analyst C	50	5	23	6	16
	Reported	55	5	15	5	20
	Mill weights	60 per cent rags, 20 per cent bagging, and 20 per cent mixed papers.				
No. 5	Analyst A	10	trace	45	15	30
	Analyst B	8		68	11	13
	Analyst C	10	trace	68	10	12
	Reported	10		60	10	20
	Mill weights	66 2/3 per cent bagging, and 33 1/3 per cent mixed papers.				
No. 6	Analyst A	15	5	80	trace	trace
	Analyst B	14	6	80	trace	
	Analyst C	10	trace	90		
	Reported	15	5	80		
	Mill weights	100 per cent bagging.				

In studying the table, it may occur to the reader that the data given under the caption "Mill weights" do not harmonize with the analyses of the several felts. The apparent discrepancies can be largely explained, however, by calling attention to the following facts:

Saturating felts are made from comparatively low-grade materials, and but little care is taken to sort the fibers into the various classes. All "cotton" rags, even the most carefully hand sorted probably contain more or less wool. Old gunny bagging usually contains small amounts of other fibers, since it is used for wrapping bales and bundles of all kinds of fiberous materials. Small bits of papers were found in the bales of rags used. Sawdust is not clearly distinguishable under the microscope from groundwood pulp, and any amount of sawdust would be reported by the analyst as groundwood. Considering these facts, it is probable that the actual composition is somewhat different from that indicated by the mill weights.

It may also be observed that, in general, the three analysts checked each other closely in the fiber determinations. This fact is significant, since analysts (B) and (C) had had comparatively little experience in fiber determination. This would seem to indicate that the dot-count method of analysis is capable of giving results of the ordinary accuracy, even in the hands of analysts of comparatively little experience in fiber analysis.

Important Consideration

The following considerations are of importance in carrying out the procedure outlined herein.

If the samples received for microscopical analysis have been saturated with tar or asphalt and have not been extracted, it will be necessary to remove the saturant by means of a suitable solvent[7].

It is thought advisable to boil the samples for about a minute in a 0.5 per cent solution of sodium hydroxide to loosen grease, dirt, and animal and rosin sizing which may be present from the use of old papers. A question has been raised as to the action of this solution in dissolving any wool, hair, or silk fibers that may be present. It is generally known that a sodium hydroxide or a potassium hydroxide solution of this strength has no appreciable solvent action on these fibers. It requires the action of a boiling 10 per cent solution of these reagents for several minutes to dissolve these fibers completely.

In some cases the felts contain so much dirt, chiefly carbon, after extraction that it is advisable to wash in a soap solution after cooking in the sodium hydroxide solution. The fibers must be comparatively clean and free from grease and oil in order that the stain may react characteristically with the various fibers present; otherwise, of course, a microscopical analysis would be difficult or even impossible.

A thorough agitation was found to be necessary because of the lack of uniformity of the fiber content from point to point in the felts and because of the presence of lumps of fibers. Since the fibers used in the manufacture of saturating felts are never reduced to as fine a state of subdivision as those used in making the finer grades of papers, it can not be expected that the distribution of the fiber mixtures composing a sheet of saturating felt will be as uniform and homogeneous as that in the finer grades of papers. For this reason it is advisable to use a mechanical stirrer to aid in getting a representative sample of fibers on the microscope slide. If this is not done, it will be necessary to prepare and examine a much greater number of slides for equal accuracy of results.

Precaution must be taken that the tube used in making the dropper is of sufficient internal diameter. This is important because of the relatively long length of the fibers of saturating felts; and a tube of too small internal diameter would pick up only the shorter fibers and transfer them to the slide which, therefore, might not be representative of the mixture composing the felt. The end of the tube which is to be inserted into the fiber suspension should be made smooth, or glazed, by heating in a Bunsen flame for a few minutes, but should not be constricted in the process. The glazing will prevent fibers from catching and clinging to the otherwise rough end of the tube.

In the determination of the fiber composition of material such as roofing felt it is necessary to give particular attention to the structural characteristics of the different fibers, and not depend too much on the color developed by the stain, since there are several structurally different fibers which give similar color reactions.

Considerable thought has been given to the details of the dot-count method of fiber analysis and to its possibilities, but extensive application of it has not been made. For this reason it is hoped that additional data will be secured by other fiber analysts on the use of this method in order to establish its practicability for general fiber analysis.

[6] The author wishes to acknowledge the assistance in securing the data herein given of E. F. McIntyre, Junior Scientist, and L. W. Snyder, Junior Engineer, Paper Section, Bureau of Standards.

[7] The American Society for Testing Materials (Trans., Vol. 26 (1926), Part I, pages 436-37, 988-89, and 995) advises for this purpose the use of carbon disulphide, benzol, or chloroform.

Continuous Recausticizing in Pulp and Paper

By Dr. C. L. Knowles

The latest Government figures available, those for 1925, show a total reported caustic soda production for the year, of 492,000 tons, of which only 9,000 tons were consumed in paper making. However, during the same period, paper makers are reported to have purchased 75,000 tons of soda ash, the majority of which doubtless was converted into caustic soda. Assuming 10 per cent loss of caustic in the cycle of digesting pulp and recausticizing or converting the ash to caustic soda, it may conservatively be assumed that approximately 600,000 tons of caustic soda are produced yearly by the paper makers, and not shown in any reported figures. From an equipment standpoint, this tonnage must be considered.

From a strictly chemical viewpoint, it is difficult to cite a more simple reaction than the conversion of soda ash and lime to caustic soda and calcium carbonate. Mechanically or from the viewpoint of the chemical engineer, this is not the case. Beyond a doubt, each mill has solved many of the problems directly concerning that mill, but very little data is recorded concerning the process in general.

Sulphate or Kraft Pulp Mills

From a practical point of view the recausticizing operation for sulphate or kraft pulp mills differs but little from that of soda pulp. The whole cycle may be handled as discussed here, salt cake added to the black ash before smelting calcining furnishing the make-up soda. We are at present studying several minor factors in the sulphate operation and feel that no complications will arise if equipment identical to that used for soda pulp is recommended.

Batch or intermittent methods of processing have only recently been superceded by continuous methods in recausticizing. Causticizing in a soda pulp mill is in general similar to that of a commercial production of caustic by the lime process, differing in the reuse of the liquor instead of its being evaporated and in acceptibility of a 12° to 15° Be. liquor of over 90 per cent causticity. The paper manufacturer operates his recausticizing plant as a necessary evil and demands efficiency without the operating attention such as a commercial plant would receive. He is interested in a plant that is compact, fool-proof and that will perform dependably at minimum cost. Such a plant will yield a sufficiently strong liquor of practically theoretical causticity without the necessity of blending weak and strong solutions to produce the required strength.

The cycle of a soda pulp mill includes, regardless of the style or age of the plant, digestion, evaporation and burning the ash; lime slaking; recausticizing and often reburning the lime mud for calcium oxide recovery.

Digestion is a step well known to the pulp mill operator and needs no discussion here.

Evaporation and burning the ash recovers the soda which is an economic necessity. Normally about 90 per cent of the original alkali is recovered and recirculated. Standard practice is probably evaporation followed by burning in a rotary kiln or more recently in furnaces of the Wagner type which burn the ash completely, making the carbon available for its fuel value.

Recausticizing is the process of combining slaked lime and soda ash to produce caustic soda. Under this heading will be given later some experimental data concerning agitation and decantation, which is the object of this paper.

Reburning the waste calcium carbonate mud was considered first in 1900, largely to prevent nuisance, cost of cartage, etc. It is now considered a necessary economy justified by the lime and soda recovery. In this discussion we are concerned with reburning only as it affects the slaking and causticizing results.

Slaking the lime, either new or reburned, requires careful control to assure a product satisfactory for the following operations. This step will be discussed at length later.

The principal problems then are in the control of slaking, and reburning, and the mechanical mixing and interaction of the calcium and sodium products. If properly handled, the resulting calcium carbonate will settle rapidly to a low final density. This is necessary if the plant is to be compact, efficient and simple to operate, and is dependent on several factors the quality or character of lime used, the time and heat of slacking, dilution, and the degree of causticity and gravity.

Lime

The difference in the behavior of limes used in the manufacture of caustic soda has been recognized for many years but only in the past five years has any effort been directed at standard specifications. In general, the calcium oxide content should be a minimum of 90 per cent although in some cases a lower content produces caustic soda economically. The magnesia should not exceed 1 per cent. Beyond the fact that magnesium hydrate and carbonate settle slowly, we have no data as to the reason for the many difficulties that arise from the presence of magnesium.

Briefly, a suitable lime for the operation must slake readily yielding a maximum of calcium hydrate, and the carbonate produced from it on causticizing must settle rapidly to a low final dilution leaving a completely clear supernatent caustic solution.

The National Lime Association has during, the past several years, tested lime from a great number of sources, reporting analyses, settling rate and causticity produced on treatment with soda ash. It is a known fact that a fast settling lime yields after causticizing, a fast settling carbonate. We have made many tests where fast settling carbonate was produced with the original lime but results after one pass through the kilns were quite opposite. This apparently was due to the lack of suitable control in reburning.

Even after a proper lime has been selected it can easily be ruined in the burning operation. Much has been written on the control of temperature and other factors in the kiln and it is needless to go further into the matter here.

Whatever the characteristics of the original lime, after slaking it should be practically all calcium hydrate, readily convertible into calcium carbonate during causticizing. The carbonate thus produced must have a rapid settling rate and settle to a low final density.

Settling Rate

The settling rate in feet per hour of any pulp is determined by direct measurement of the subsidence of the pulp line on standing. For instance, if a pulp shows six inches of clear supernatant liquor in thirty minutes, the settling rates is one foot per hour. Hence a high settling rate indicates a material readily handled. For convenience, this rate may be readily converted to unit area giving at once the area in square feet required per ton of dry solids to be settled in 24 hours. Both these terms will be used in discussing further results.

Former practice in lime slaking employed batch operation but modern paper mills slake continuously. The time required for complete slaking of lime varies with the source of the material. It is probably true that a few minutes is sufficinet for practically complete slaking and from 15 to 30 minutes time of contact to assure completion of the reaction in normal operation. In the production of special limes for purposes other than causticizing, it has been found that increasing this period assists to some extent in producing slightly more calcium hydrate which is more finely divided. The paper industry is not greatly interested in this condition.

The theoretical quantity of water added to the calcium oxide to produce the hydrate yields a readily settleable product, which on

causticizing produces a carbonate which will settle with a fast rate or require a low unit area.

C. T. Henderson of the Great Western Chemical Company conducted tests along this line and has shown that lime slaked in a theoretical quantity of water and then diluted ten times settles to 50 per cent of its volume in 10 minutes. When slaked in ten times this volume of water, 440 minutes were required for the material to settle to half its volume. We have verified this observation in numerous tests, although in general the difference obtained was not as great as shown by Mr. Henderson.

In our tests, one sample of lime slaked in 500 cc. of water had a settling rate of 0.28 ft. per hour. The same material in one-tenth as much water had a rate of 1.48 ft. per hour. It seems reasonable that the rate at which this lime may be causticized will vary inversely as the settling rate. In other words, the readily settleable material probably has a relatively larger particle size and is causticized only with more difficulty. Mr. Henderson made tests to check this point and found that the lime which settled readily required 330 minutes for causticizing whereas the slow settling lime could be causticized in 5 minutes.

Fast settling lime, or carbonate produced from it, settles to a much lower final density than the lighter material. In general, calcium carbonate produced in the manufacture of caustic soda will not settle beyond a final density of 2:1, that is, the final mud contains two parts of water or solution to each part of calcium carbonate. Some of this material however, will settle readily and will go down to slightly more than 1:1 under ideal conditions. This is a decided advantage where washing is to be carried out by decantation, and as well, probably in the filtration stage.

Slaking the Lime

Slaking in the theoretical quantity of water is entirely satisfactory for the production of dry calcium hydroxide but it does not appear entirely practicable to operate along these lines in a paper mill. In fact, this is not necessary since suitable calcium hydrate and the resulting calcium carbonate may be prepared in an entirely different manner, and material produced which not only is satisfactory from a basis of settling, but the method of preparation fits much more smoothly into paper makers' recausticizing generally.

We conducted tests to determine the effect, if any, of the mesh of the unslaked lime on the finished product. As might be expected, there appears to be no relation between the size of calcium oxide particles and the size of calcium hydrate or carbonate particles produced by slaking, or by slaking and causticizing.

In order that equipment might be recommended for the production of calcium hydrate for finishing plaster and where it was necessary to classify the hydrate after slaking, tests were made in which the slaking reaction was carried out at different temperatures. A marked effect was evident at the start. As an example, lime slaked in a large excess of water at 20 degrees Cent. required a unit area of 8.3 square feet, whereas at 83 degrees Cent. it required a unit area of 3.5 square feet. In other words, approximately 60 degrees in temperature reduced the unit area more than half, or, a settling tank of given size would handle over twice as great a tonnage per day if the slaking were carried out at an elevated temperature.

Washing by Decantation

In the caustic plant, if washing is carried out by decantation, it is desirable that all of the fresh water entering the plant be added at the end of the series in order to obtain both a maximum washing efficiency and a maximum strength of caustic liquor for digestion. Therefore it is desirable to slake the lime in wash liquor from one of the decantations after washing the calcium carbonate. We have conducted numerous tests along these lines, both on laboratory and plant scale, demonstrating that lime slaked in alkali liquor settles much more readily than lime slaked in an excess of fresh water and accordingly the calcium carbonate produced from this lime has a better settling rate.

As an example, lime slaked in an excess of water had a settling rate of 1.48 ft. per hour; in 15 per cent sodium carbonate solution it had a settling rate of 2.92 ft. per hour; in 8 degrees Be. caustic soda it had a settling rate of 2.71 ft. per hour.

Harrup and Forrest have made tests along similar lines and state that slaking the lime in water before causticizing reduced the settling rate of the finished carbonate from 0.53 in. per minute to 0.11 in. per minute, but increases the rate of conversion. The National Lime Association has also verified this in numerous tests.

Assuming that the better settling rate or lower unit area is due to greater particle size, it is easy to understand why slaking in sodium carbonate liquor might give these results. An attempt is here being made to carry out two reactions, simultaneously—immediately a particle of calcium oxide is hydrated, it reacts with the soda ash to form carbonate. Whatever may be the true explanation of the theory, it is a demonstrated fact that slaking in carbonate liquor gives a hydrate which is readily handled and a fast settling carbonate mud after causticization. This is ideal from the operator's viewpoint since weak liquors may be recirculated to dissolve the soda ash and for slaking, thus producing a high Baume caustic liquor without decreasing the washing efficiency.

Continuous Causticizing

It was at one time believed that continuous recausticizing was not to be recommended because the reaction must always proceed in the presence of relatively strong caustic solution. The above data indicate that continuous causticizing does offer advantages over and above those of normal continuous operations since the calcium carbonate mud settles more readily to a lower final density, thus reducing the floor space required, and simplifying the washing steps.

Recausticizing

It has been pointed out that lime must be carefully burned and that the conditions of slaking must be correct if the causticizing operation is to proceed satisfactorily. For wood pulp digestion, about 92 per cent causticity and a 12 degree Be. clear liquor are desired. There is no difficulty in obtaining practically theoretical conversion or causticity at this Baume in continuous operation. One continuous caustic plant recently put into operation is now giving 15.8 degrees Be., 92.3 per cent causticity as an average figure. We believe this is infinitely more desirable in every way than former methods of producing two liquors, the first of high Baume but low causticity, and the second of low Baume and high causticity, then mixing these to obtain the liquor strength desired.

Contrary to the belief of some operators, our laboratory and plant experience indicate that it is not necessary to boil the mixture of soda ash and slake lime for complete causticization. A temperature of 90 degrees Cent. will give practically complete conversion in one hour. Increasing the temperature above this apparently offers no advantages.

In our first installations we allowed a very long time of contact to assure a complete reaction. We have since reduced this time to one hour and realize that a longer time of contact is injurious to the settling rate of the calcium carbonate produced. With an ordinary stirrer the results of time of agitation versus settling rate of the finished calcium carbonate is as follows:

Time min.	Settling rate ft. per hr.
30	2.5
60	1.98
90	1.72
120	1.56

These tests were carried out simply to determine the trend and without doubt much more striking results could be obtained by further experimentation. They do indicate however, that the time of causticizing should be reduced to that required for the reaction practically to reach completion, but that further agitation is detrimental. Moreover the violence or type of agitation provided has its effect on the lime mud produced. This has been carefully studied in order to make possible complete conversion

in a minimum period of time without injuring the settling qualities of the calcium carbonate.

The following results are interesting, showing the settling rates of slurries in feet per hour after agitation for the period of time indicated with a mechanical agitator revolving at 180 and 420 r.p.m.

Time min.	Speed 180 r.p.m.	Speed 420 r.p.m.
30	2.5	1.67
60	1.98	1.48
90	1.72	1.25

The best method of mixing the lime and soda ash before the boil has been discussed under previous headings. We recommend that the new or reburned lime be slaked in the soda ash liquor made by dissolving the soda ash in the overflow from the second Dorr Thickener, feeding the dry oxide slowly and continuously, and that the slurry of lime slaked under these conditions enter the first reaction agitator.

We are recommending the rotary type of slaker in which the new or reburned lime is added gradually to a hot solution in the slakes, and we believe that under these conditions ideal results can be obtained. If the Wagner type furnace is used, the second thickener overflow, a weak caustic liquor, may be mixed with the molten soda ash directly to dissolve the material. With the older type of ash burner, that is, evaporation followed by a continuous kiln, the soda ash as delivered contains an appreciable amount of carbon which under certain conditions tends to float after causticizing, giving cloudy appearing caustic liquor. Formerly this soda ash was leached from the slag but in at least one new plant we have recently seen in operation, the hot reburned lime and the hot reburned ash containing an appreciable amount of carbon were both fed by means of two screw conveyors to the weak liquor from the second thickener.

Another plant where the lime is not reburned, mixes dry hydrate from a separate operation with the weak caustic soda solution, this slurry being mixed in the first reaction Agitator with sodium carbonate solution.

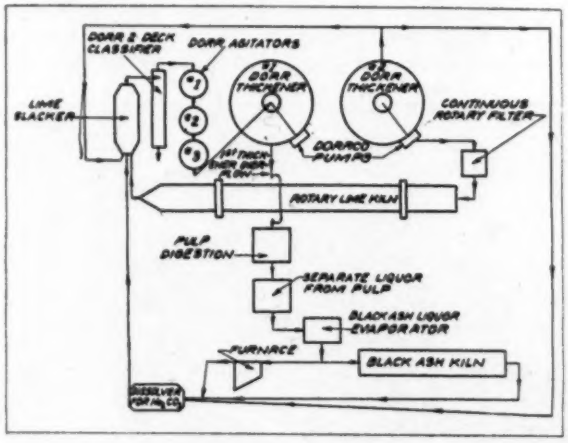


FIG. 1

Continuous Recausticizing Layout.

Settling, Thickening and Washing

In intermittent plants where the settling is carried out in batch operation, a certain period of time is allowed for the calcium carbonate mud to settle in the tanks before decantation of the clear caustic soda liquor. In general, a battery of these tanks is provided and used in series so that the weak wash liquors from one series of tanks are mixed with the calcium carbonate mud settled out of a stronger liquor. In other words, countercurrent decantation is obtained here, even though the operation is not continuous. More recent plants using the continuous principle are installing Dorr thickeners. Whichever type of equipment is used, it is very important that a maximum temperature be maintained in the settling units. Cases have been observed where a drop of 10 degrees, that is, from 90 degrees to 80 degrees Cent., reduced the capacity of a certain settling tank by 50 per cent. This, to a certain extent, is due to the increase in viscosity of the liquor because of the drop in temperature, but in any case it is advisable to lag the thickeners or settling tanks. If no lagging is provided, convention currents are sure to be set up and even though the majority of solids settle with a rapid rate, the nearly colloidal material refuses to settle due to the slight agitation and under these conditions it is impossible to obtain a crystal clear overflow.

In general, all the thickeners or settling tanks should be of the same size when handling caustic soda. Ordinarily, solids will settle more readily in a weak liquor than in concentrated, but apparently as the dilution decreases fine precipitated calcium carbonate disperses, resulting in practically the same settling rate in 1 degree Be. caustic liquor as in 10 degrees Be. caustic liquor.

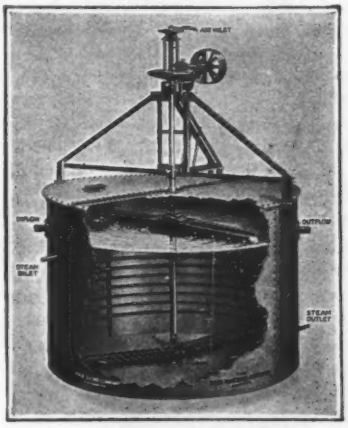


FIG. 2

The Dorr Agitator Reaction Type.

The data presented are probably more or less confusing when taken as such, but all of these facts are considered in figuring equipment for recausticizing. It will be noted that consideration has been taken of the best conditions of slaking to produce a calcium carbonate mud which will settle to a low final density with a minimum unit area and yield a crystal clear overflow. The best method of mixing the lime and soda ash solution, the type of agitation for carrying out the boil, the time of contact, the speed of agitation, etc., have all been considered. The thickener itself received a strong caustic liquor containing suspended calcium carbonate and every precaution has been taken to have this calcium carbonate physically and chemically correct so that small units will have a high capacity and maximum washing efficiency will be obtained from each decantation. In both the laboratory and plant tests, calcium carbonate muds have been produced which require all the way from 3 to 35 sq. ft. unit area for settling tanks or thickeners. Recommendations allow a liberal unit area in order that the plant may not be installed for ideal conditions which cannot be maintained in daily operation. For each plant it is advisable to test the lime to be used before specifying thickener sizes. It will be realized that an ample safety factor is allowed in recommending relatively large unit areas, but even with the liberal allowance, tank sizes are entirely reasonable and by allowing considerable depth of clear liquor on the top of each Thickener at all times, the complete layout requires considerably less attention than would be necessary if the sizes were figured more closely.

Assuming then that it is desirable to

(1) Slake at an elevated temperature
(2) Slake in soda ash liquor adding the lime slowly
(3) Agitate the lime soda mixture for ½ to 1 hour
(4) Control agitation to give fast settling mud
(5) Clarify the liquor at high temperature with a minimum of floor space
(6) Obtain a lime mud at final density
(7) Wash with a minimum of water
(8) Obtain one high Baume high causticity liquor with no weak liquor to be handled

The equipment and layout which will best provide these conditions must be considered.

Equipment Recommended

An outline drawing (Fig. 1) is presented showing in plan what we believe to be a very satisfactory recausticizing plant for a paper mill. Starting with the reburned lime, the calcium oxide is fed by means of a screw conveyor to the rotary lime slaker (Fig. 2) where it is mixed with a solution of sodium carbonate prepared by dissolving the ash in weak caustic soda overflowing the second Dorr thickener (Fig. 3). The liquor returning to the slaker is hot. Into this the lime is fed slowly and continuously. This fulfils the conditions (2) desired, i.e., slow addition of the lime to hot soda ash liquor. Slaking is complete in this unit. The layout is so arranged that the milk of lime passes through a Dorr washing classifier (Fig. 4) in which all of the gritty particles are removed. Unburned and overburned lime, or any material which did not completely slake, are taken out of the circuit at once, this eliminating further trouble in the agitator and thickener tanks, pumps and pipe lines. Under ideal conditions it is possible to return calcium carbonate sludge so that the material contains no lumps or unburned or overburned material, and if these conditions were carefully carried out, it would not be necessary to pass the reburned lime through the classifier. We recommend this classification, however, as an additional safeguard to prevent possible shutdowns from clogged pumps or pipe lines. The general classification step is all important and no type of settling procedure should be considered without it as segregating pulps may cause difficulty.

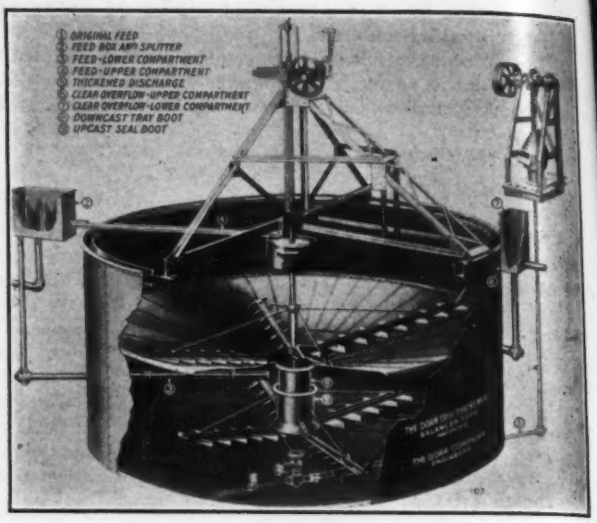


FIG. 3
Tray Thickener—Balanced Type.

The classifier overflow consisting of hydrated lime and soda ash, possibly somewhat converted to caustic solution, is fed to the first Dorr agitator. One hour time of contact is allowed in the three Dorr agitators,—conversion is practically complete and the slurry flows to the feedwell of the first Dorr thickener. Strong caustic liquor at from 12 to 15 degrees Be. is continuously removed from the top of this Dorr thickener and sent to stor-

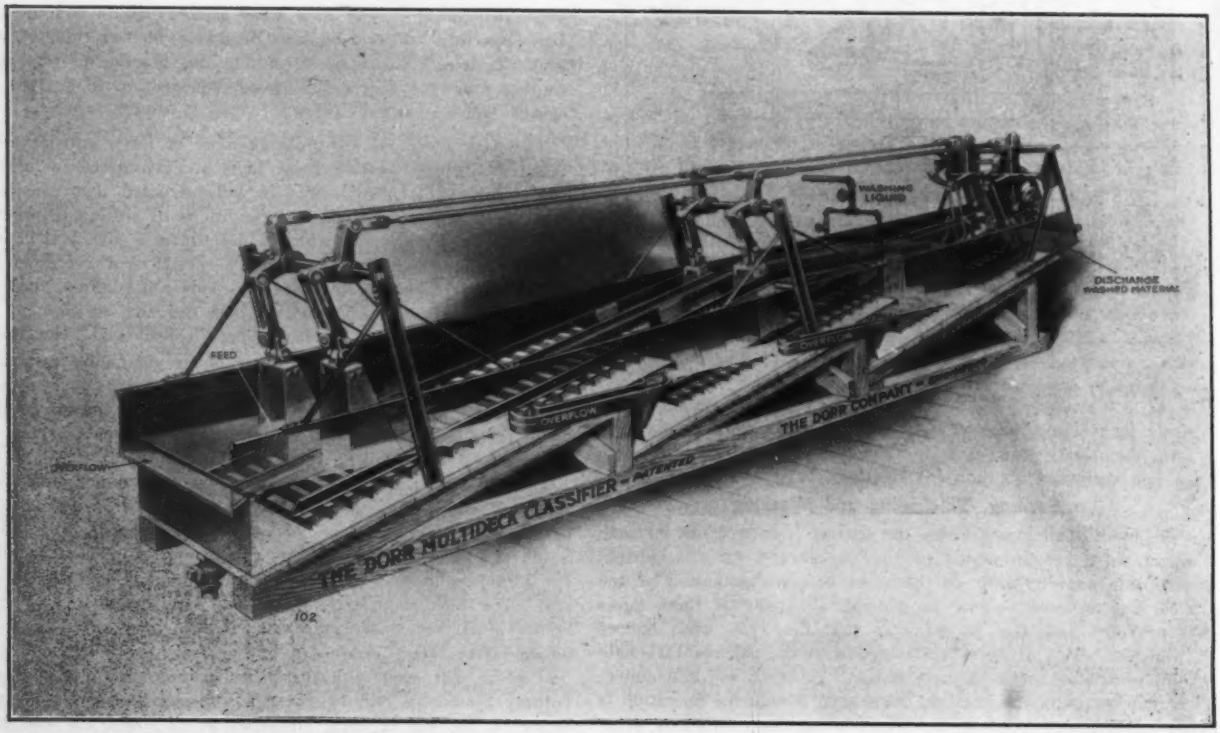


FIG. 4
Dorr Three Deck Washing Classifier.

age for the digestion operation. The calcium carbonate mud settles to final density, is pumped by means of a Dorrco pump (Fig. 5) to the second Dorr thickener—the overflow from this unit being weak caustic liquor, is returned to dissolve soda ash and the makeup liquor recirculated for slaking.

The sludge from this second thickener passes to a continuous filter and to the kiln for reburning and thus the cycle is complete. There appears to be some variation in the operation now carried out by paper makers as to the amount of caustic soda which should be present in the calcium carbonate mud reburned. In a desire to eliminate the dust nuisance some companies desire at least 1 per cent caustic in this mud, whereas others attempt to keep this figure at a minimum. It may easily be varied to give whatever is desired by increasing or decreasing the number of thickeners or filters in the layout, or by reducing the quantity of wash water added. The slaker recommended is on the order of a light tube mill and any mill might be used if preferred.

In the Dorr classifier (shown in the diagram) two decks are usually provided to remove the gritty particles without loss of valuable caustic after the lime has been slaked in weak caustic liquor. The amount of oversize particles removed by the classifier is in any case not large and two decks to the unit actually

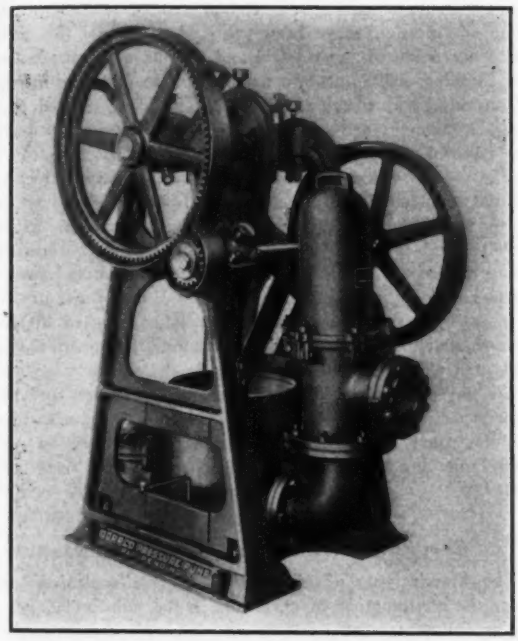


FIG. 5
Dorr Simplex Pressure Pump.

give two decantations and the soluble caustic is removed from the oversize particles with a minimum of caustic loss.

The Dorr classifier is a standard machine and will not be discussed here. The separation desired is a simple one and practically no loss of head is involved in passing through the unit.

The Dorr agitators used are standard reaction type and are calculated to give the slurry at this point one hour's retention. Obviously one larger agitator could be used but with the continuous operation some bypassing would result with a loss of efficiency. For this reason two to three Agitators are normally recommended, thus practically eliminating any bypassing and assuring complete reaction. Covered steel tanks are provided and the type of agitation is such that after one hour's detention the settling rate of the calcium carbonate has not been impaired.

Since a special type of agitation is desired, this machine will be described at sufficient length to see if the conditions required have been provided.

The Door agitator consists of a cylindrical, flatbottom tank fitted with a mechanism which brings the pulp from the bottom of the tank to the center, lifts it and distributes it evenly over the surface of the slurry. The construction is of iron and steel throughout. The operating mechanism comprises a central, vertical shaft driven by bevel gears and revolving in bearings

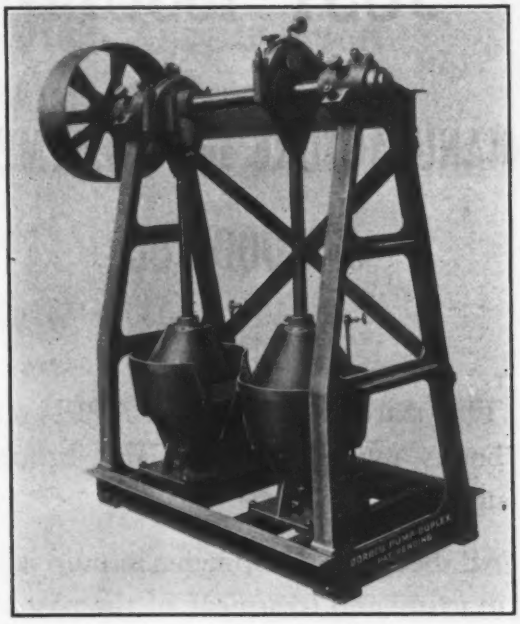


FIG. 6
Dorr Duplex Suction Pump.

suitably supported from the tank. All bearings are above the pulp level and carry the weight of the revolving parts so that no step bearing is required. This feature eliminates the considerable difficulty experienced with step bearings in strong caustic liquors. At the lower end of the shaft is a casting to which is attached an airlift column or pipe bearing two arms with plough blades. Such an agitator gives an intimate mix between the milk of lime particles and the soda ash solution without beating the material or in any way injuring its settling properties.

A small amount of air is required in the airlift of these agitators but this is in no sense air agitation. But a few cubic feet of 15 pounds air is satisfactory. This small amount of air apparently gives no carbonation which can be detected.

The Dorr thickener in its simplest type consists of a slowly revolving mechanism installed in a cylindrical tank. The slurry is fed to a central feed well, the overflow being taken off from a peripheral launder at the top and the solids settling to the bottom are scraped to the center by means of blades attached to the arms sweeping the bottom. The solids are carried to a central discharge cone and are removed by means of the Dorrco Pump. In order to reduce floor space to a minimum for caustic and other work, we are recommending the Dorr tray thickener with two or more compartments as shown in the diagram. By providing one tray or diaphragm the settling capacity of a tank of any given diameter is practically doubled. Four compartments or three trays are recommended for larger installations. The type shown is the balanced type in which feed is allowed to enter each compartment, all of the settled solids being removed from the center of the bottom compartment. Absolutely clear liquor is obtained without difficulty in this operation and since

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all of the solids are removed from the bottom at final dilution, much better washing is obtained in a given number of Dorr thickeners than can possibly be obtained in the same number of intermittent settling tanks where it is necessary to decant the clear liquor at the sludge level, thus leaving the solids wet with an appreciable amount of caustic liquor.

In general three Dorr thickeners will give the same washing with the same amount of wash water as four or five intermittent decantations.

Continuous counter current decantation has been discussed often. Here no attempt is made to show the line of flow throughout but obviously all of the wash water is added to the last unit and the liquor removed from the first Dorr thickener is of the same strength as delivered from the agitator series without dilution. The second thickener overflow being weak caustic liquor is recirculated for lime slaking and sodium carbonate dissolution.

The Dorrco suction pump (Fig. 6) is a slow moving diaphragm pump used for removing the settled solids from the Dorr thickener. The Dorrco pressure pump by means of its two diaphragms with water between will operate against approximately a 40 ft. head of water and is normally used if the sludge from the second Dorr thickener is to be delivered any distance to the filters. Realizing that caustic liquors are somewhat difficult to handle in steel tanks of usual construction complete specifications have been prepared to handle this work. All parts are made of ¼ in. steel and all plates are beveled sheared for caulking,—all joints are made metal to metal without gaskets of any kind and where possible to surface, are beveled for caulking. All flanges are of steel instead of cast iron and all tanks are covered and lagged to prevent heat loss.

The solids settled to final density in the second thickener are filtered and fed directly to the kiln for reburning. If the lime is to be discharged to waste additional thickeners are recommended and no filter is required. Continuous recausticizing is as attractive to plants discharging their mud to waste as to those reburning the lime.

It is believed the above flowsheet takes care of all the conditions which were deemed desirable and the operation of several new plants indicates that such is the case.

The layout requires but little operating attention and but little floor space, and losses are at a minimum. It seems an ideal plan for the paper manufacturer and continuous operation may proceed from day to day with little attention after once being adjusted.

Chemicals in Pulp and Paper Manufacture

The March issue of *Chemical and Metallurgical Engineering* gives the consumption of chemicals in the pulp and paper industry as follows:—

	1924		1925		1926	
	Tons	Per cent of 1924	Tons	Per cent of 1924	Tons	Per cent of 1924
Soda Ash	60,000	100	75,000	125	80,000	133
Caustic Soda	5,000	100	9,000	180	10,000	209
Liquid Chlorine ..	21,000	100	36,000	171	40,000	190
Bleaching Powder.	90,000	100	57,000	64	51,000	57
Aluminum Sulphate	87,500	100	99,000	113	102,000	115
Sodium Sulphate...	75,600	100	103,000	136	106,000	140
Sulphur	210,000	100	230,000	110	240,000	114
Lime	280,000	100	295,000	105	300,000	107
Rosin	68,000	100	78,000	115	81,000	119
Casein	14,500	100	16,500	115	17,500	121

A. G. Stone Goes to Rumford Paper Division

A. G. Stone, superintendent of the Menominee Division of the Marinette & Menominee Paper Company, of Marinette, Wis., one of the subsidiaries of the Continental Paper and Bag Mills Corp., has been called to the East, to act as plant superintendent and production manager of the corporation's largest plant, the Rumford Paper Division at Rumford, Me. Mr. Stone assumed his new duties April 1.

Section of the

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The Value and Interpretation of Financial Statements*

By Andrew Stewart, C. P. A.

The term " Financial Statements" is broad in scope and may be interpreted to include all statements designed to show the financial position of business and its financial history, including supporting schedules giving further particulars of component items. In ordinary usage, it is confined to a balance sheet with the occasional addition of a profit and loss account, but in addressing a body of credit men, I feel that it is essential that I should include also something even more uncommon, among credit men, than the profit and loss account—the budget.

I believe I can fairly assume, in addressing this important gathering of men who have their fingers continuously on the pulses of business, that the value and importance of a balance sheet in relation to credit are well recognized and the proper methods of interpreting it are fully understood. Much has been written on this subject and probably little can be added at this time to the existing literature. But I doubt whether the importance of the profit and loss account and budget has been as fully recognized as it should and possibly less attention has been directed to their interpretation than they deserve.

I propose, therefore, to make merely passing reference to the value and interpretation of the balance sheet and to stress mainly the importance of the profit and loss account and budget.

It will, of course, be understood that these remarks are intended mainly to apply to cases where substantial credits are involved, or in other situations where it is deemed essential to consider all relevant data. Under such conditions, both the profit and loss account and budget must receive consideration.

If what I have to say can be construed as a message, it is this —that both the balance sheet and profit and loss account are necessary complements for the ascertainment of facts having a bearing on credit; that, from these two principal financial statements, the important factors, as far as possible, should be reduced to ratios and percentages, which should then be made a permanent record in statistical form, so that the trends of the business from period to period may be easily visualized and that the credit grantor should know in advance the estimates for the immediate future as shown by a budget.

It is, of course, obvious that financial stability is a pre-requisite of credit. It is equally clear that the maintenance of that condition is of prime importance. In other words, we are concerned not only with the correct presentation of the assets and liabilities properly classified so as to be readily understood, but also with a profit and loss account. The latter gives expression to past performance, and, as such, affords an index of what may be accomplished in the future, and as a measure of managerial capacity —which is not the least of the intangibles involved.

If we refer to the history of accounting, we can find a very logical reason why the profit and loss account has not been regarded as important as the balance sheet in the determination of credit. Old-fashioned accounting methods provided for the taking inventory only once a year; there was no cost system and no attempt was made to develop book inventories. At the end of each year a balance sheet was prepared and the increase or decrease in net worth represented the profit or loss for the period, subject to dividends paid, etc. Frequently no profit and loss account was prepared. Accordingly it became the custom to submit only a balance sheet in support of requests for credit.

No Longer a Valid Excuse

The modern complexities of business make it essential today that concerns of any importance, if they are to meet competition successfully, prepare monthly profit and loss accounts in proper form. The old excuse that this cannot be done because inventories are taken only once a year is no longer a valid one. Modern Accountancy can claim its due share of credit for this changed attitude. The requirement of monthly profit and loss accounts with the requisite perpetual inventory systems has now been recognized as so essential that certain of our leading investment bankers will refuse to consider financing for any company that has not made provision therefore. In fact, it has come to be recognized that without such a system as will provide for monthly accounts, management cannot be fully effective.

There is no longer any reason why almost any business, be it great or small, should not know from month to month its financial position, its operating results and the variances therein as compared with its budget. The more seasonal the business is, the greater the necessity of preparing statements to show to what extent accomplishment has exceeded or fallen short of anticipation. Only by this means can effective steps be taken at the proper time to correct policies which otherwise might lead to disaster. How many business failures could have been avoided if these principles had been observed!

It seems to me, therefore, that the credit man should have no hesitation in asking for a profit and loss account and a budget. If the applicant is unable to furnish these statements, the credit

* An address before the Forum of the New York Credit Men's Association, Feb. 16, 1927. From Robert Morris Associates Bulletin.

man has nevertheless rendered him a service in bringing these necessities to his attention, particularly if he recommends, as he no doubt will, that they be furnished at the earlies possible date. This last feature is, I think, not the least of the valuable services a credit man can render to his customers.

Not an Exact Science

So that you may not gain the impression that the points I make are too theoretical and of little practical value, let me say that public accountants, in common with all credit men, understand that the granting of credit cannot be reduced to the lines of an exact science and that the ultimate decision must be based on opinion arrived at after careful review of all pertinent facts. While financial statements may govern the extent of credit, the credit itself is based very largely on that elusive attribute of human nature we call character, in estimating which we cannot shut out from our minds, even if we wanted to, the impressions of a personality that appeals strongly to our emotions. It is, therefore, of great importance that all facts that can be ascertained from a study of financial statements be ascertained before an attempt is made to appraise character. I trust that I may be able to demonstrate to your satisfaction that the factors which can be marshalled from profit and loss account are of such vital importance that the study of the balance sheet alone in certain cases would not only be a waste of time but might, in fact, give a wrong impression.

As stated, I do not propose to make extended reference to the balance sheet but mainly to emphasize the value of the use of ratios which when properly assembled over a period of years enable the credit grantor to visualize quickly the important trends of the business.

Most Important Balance Sheet Ratios

The most important balance sheet ratios are:

1—The Current Ratios

A—Cash to Current Liabilities.

B—Current Assets exclusive of Inventories to Current Liabilities.

C—Current Assets to Current Liabilities.

2—Trade Accounts and Notes Receivable to Inventories.

3—Fixed Assets to Net Worth.

4—Debt to Net Worth.

It is now well recognized that no rule applicable generally can be enunciated as indicating a safe minimum ratio of current assets to liabilities. The nature of the business, turnover, credit terms and collections are all matters that must be taken into consideration and the test of quality as well as quantity should also be applied. I therefore strongly advocate that the three current ratios be considered together, viz., the ratios to current liabilities of cash, of current assets less inventories and of total current assets.

The ratios of trade accounts and notes receivable to inventories when set up in comparative form over a period of years is of great value as a barometer. In the case of a stable business which is efficiently managed, this ratio will usually show little variation. When substantial variation is shown, an explanation is necessary. If it has increased, are collections slower or are inventories below normal? If a decrease is shown, are inventories excessive, have credit terms been shortened or have collections improved? These are all vital questions and if the development of this ratio helps to bring them into focus, it has been well worth the trouble.

The other two ratios cited, viz., fixed assets to net worth and debt to net worth, indicate what proportion of the proprietor's capital is invested in fixed assets and the relationship between proprietor's capital and amounts provided by bankers and other creditors, making allowance for the funded debt, if any, it may be that an excessive proportion of the net worth is represented by fixed assets, with a consequent deficiency of working capital and an undue contribution thereto by creditors for short time loans or merchandise. Such a position is not satisfactory. Lack of working capital is a serious handicap to effective management, and creditors will not continue indefinitely to underwrite the hazards of the business—for that is what it amounts to. The remedy, generally speaking, is for the proprietors to pay in additional fixed capital to bring their equity to a reasonable level or funded debt should replace recurring short term loans.

The Profit and Loss Account

Having thus considered the financial trends and relations to be observed from a study of the balance sheet, we may now extend our inquiry to its necessary complement the profit and loss account.

The profit and loss account is a report of the results of the operations for a period, in which are set forth the sales, cost of sales, operating expenses, selling expenses, interest and other financial charges and income tax, the result of all of which is the net income. Let us consider what important information can be developed from these figures.

As is to be expected, earnings in different businesses will show varying rates. In order to justify the risk, we would expect a higher yield from a speculative venture or one subject to unusual hazards, than we would from one dealing in staples in a highly competitive field. But, in any case, to justify the continued existence of a business in whatever field it may operate, we would expect at least a fair return on the capital employed. The ratio of the earnings to net worth, or in other words the rate of earnings on the capital and surplus, is the first of the instructive relations into which inquiry might be made.

Again, it is of distinct interest to know what disposition has been made of the earnings. Has the dividend policy been conservative or imprudent. If the former, has an undue proportion of t heprofits retained been applied to capital expenditures, or has a fair share been used to improve the current position?

There is another feature worthy of attention in connection with the statement of profit and loss. After the books have been closed and the financial statements prepared, adjustments affecting profits are sometimes made and charged to surplus in the succeeding period. Small items, of course, may be disregarded because we have to be practical, but where the adjustments are material, they may sometimes raise doubt in the credit man's mind as to the reliability of the balance sheets, and, in any case, it is clear that proper correction should be made of the stated earnings, which otherwise are distorted.

Fnially, in this regard, as will be apparent, substantial earnings may offset a relatively weak financial position because, prudently administered, they provide the means for the necessary remedial action.

Elements in Profit and Loss Account

Let us now consider the various elements entering into the profit and loss account; it is somewhat an extensive field of inquiry but the information to be gained is well worth diligent effort.

The first item for consideration is sales. Usually the profit and loss account shows only the total amount in dollars and gives no information as to quantities sold. If possible, a statement as to quantities should also be obtained.

In conjunction with the balance sheet we can now develop the following important ratios projecting significant financial relations and operating trends:

1—Sales: Receivables

The average length of the collection period is indicated by this ratio which thus affords a useful test of the working capital requirements, and points to the adequacy or inadequacy of the conventional 2:1.

It also gives us some idea of the credit policy and the attention that is paid collections—by no means negligible features.

2—Sales: Fixed Assets

A perfectly balanced plant, the various units of which are continuously occupied, at full capacity, in producing at lowest cost the maximum amount of goods for which there is a profitable market is an abstract standard of perfection which not even an industrial genius fully realizes. But recognizing the limitations

the manufacturer should be fully aware, among other things, of the extent to which his plant facilities are being utilized.

To have the productive facilities too large for the immediate and prospective needs is poor business. In an extreme case, it may mean large amounts of capital lying fallow, as well as additional running charges to be borne by production, and consequently increased costs and smaller profits.

The ratio of sales to fixed assets affords a convenient criterion of the extent of utilization of plant facilities. This should frequently be supplemented by ratios of production, stated in volume, in relation to fixed assets.

3—Sales: Net Worth

The productive use of the company's capital is an instructive measure of operating efficiency, and the ratio of sales to net worth, which, of course, should be regarded as indicative rather than wholly conclusive, is, therefore, of interest. A relatively low ratio may suggest the need of appropriate action with a view to stimulating sales, while an abnormally high ratio, good in itself, might be due to an unbalanced financial structure in which the company has too small an equity. In a word, either extreme should be inquired into.

4—Sales to Total Tangible Assets

Like the previous ratio, of which it is the correlative, this provides us with an index of productivity and managerial capacity. A continued high ratio postulates heavy sales—always a satisfactory sign, assuming, of course, a proper price level. In this case, therefore, it is the low ratio especially that prompts further inquiry.

The next item of importance is cost of sales, which, in the case of a manufacturing company, includes all items entering into costs, with an adjustment for inventories. From this figure, in conjunction with the balance sheet, we can ascertain the following important ratio:

5—Cost of Sales: Inventory

The frequency of turnover, varying of course according to the industry, has an important bearing on the success of operations of a business. Slow turnover consequent on lagging sales, may not mean a stagnant market and poor demand—it may mean, on occasion, unsalable goods. Inquiry prompted by the ratio may reveal an ineffective selling policy, lack of co-ordination between sales and production, or, again, some needed modification in the methods of production or of merchandising.

It is a truism to say that to be successful a business must function as a whole; there must be proper co-ordination between, as well as effective action in, all its functions. Having considered the sales, we may now examine the costs and selling margin, that is, the gross profit.

In the first place, inquiry might be made as to whether the customary margin of gross profit is being realized. The company's product may be skillfully marketed in a competitive field that determines the selling price, and a reasonable margin of gross profit may be realized or even an increasing rate per dollar of sales—a satisfactory condition. On the other hand, the profit and loss account compared with previous periods may disclose diminishing margins, which might find a ready explanation in a period of price adjustments, but which, under normal conditions, call for further inquiry.

Again, let us assume that the company's price range is more elastic and we find a diminishing rate of gross profit. In this case both selling prices and costs would be reviewed. The costs being normal, it might be developed that the zeal for volume had obscured selling margins and that an impressive volume had been built up without a commensurate gross return. Such a condition would point to a revision of the sales policy, or on the other hand, the fault might be in the organization—a lack of coordination between the production and selling departments.

Still further, a marked variation in the rate of gross profit might be traced to incorrect inventories, the approximate accuracy of which may be measured by the gross profit test, especially when heavy stocks are carried. When the customary gross profit or margin which past experience in the particular business or industry has lead us to expect, is not realized, the variation may be attributable to incorrect inventories.

I do not mean that gross profit can be definitely pegged at a set figure, although under normal conditions it may be pre-determined within given limits. The gross profit test, then, is not offered as an infallible guide; it is, however, often a useful test of ready application.

How Satisfactory Profit May Be Neutralized

A satisfactory gross profit, consequent on effective sales efforts and manufacturing or merchandising skill, may be neutralized by unduly heavy selling and other general expenses, while standing charges in the shape of interest and the like may prove an incubus on the net earnings available. As a detailed examination of production costs cannot be compressed within the limits of our present discussion, similarly it is impracticable to make an extended examination of the operating expenses and fixed charges, the salient features of which, however, may conveniently be brought into review.

We may inquire, for example, as to the company's practice with regard to depreciation. Is depreciation regularly provided for at approved rates and regarded as a definite element of cost, or does the provision fluctuate in proportion to profits available? Does the charge for renewals indicate that the properties are being properly maintained, or, on the other hand, does it appear as if renewals are being improperly capitalized and profits thus overstated?

Other items in the profit and loss account, examined in like manner, are of interest as an index of operating efficiency. Regard being had to the size of the business, does it appear that the administrative salaries and other expenses are reasonable and, in relation to sales, do the selling expenses seem within proper limits? Again, what is the cost of capital—the interest charge? Does the amount seem reasonable and proportionate, or does it suggest that the financial structure is such as results in onerous interest terms, or that unfavorable financial arrangements produce a like result?

Some Further Points

Some further points might be noted; they are perhaps of relatively minor interest and yet they may reflect the degree of care with which the business is administered. Referring to the discounts, does it seem from the accounts that the company is taking advantage of the discounts offered and per contra, do the discounts allowed suggest active collections? Further, are the bad debts unduly large or is the amount indicative of a careful selection of credit risks?

Finally, it is of considerable value to compare the financial statements with those of similar businesses and to tabulate the results. This tabulation, presenting in graphic form the results of comparable business, will afford a useful measure of relative operating efficiency and financial strength, and if extended so as to embrace a representative number of concerns, will enable a reliable standard to be developed. In any event a comparison of statements, at least, is of immediate value.

It may be objected that financial statements are not submitted in such detail, as to permit the analysis which we have discussed. It is, you may say, not a question of the kind of statements we would like; rather is it a case of having to be satisfied with what we can get. I suppose that is largely true, but I suggest the gap between the desirable and the attainable can be appreciably lessened, as I think it should be.

So far, I have dealt with the profit and loss account and less extensively the balance sheet. The next important financial statement is the budget. The principal value of a budget to a grantor of credit is in acquainting him with the estimated financial and credit requirements for the next budgetary period thereby enabling him to arrive at a conclusion as to whether he is willing to take the risk which the peak of the season will demand. Of almost equal importance is the assurance which he gains from the

knowledge that the management is at least making an honest attempt to plot its course and that if it studies and amends its budget, it will know from month to month the direction in which it is travelling, instead of relying on favorable winds to carry it along, rudderless, on an uncharted course.

Value of Tabular or Graphical Form

In conclusion, I wish to emphasize to all those whose function it is to study financial statements, the benefits to be derived from developing the ratios and percentages which I have described and of recording them thereafter in tabular or graphical form. By maintaining a record in this from year to year for each customer, the credit man will be able to visualize without much study, all the important trends of the business and will be more likely to keep this picture in mind than if he attempts to rely on his recollection of a mass of figures. In addition, particularly if these statistics are kept in the form of charts, he will be able to refresh his memory more quickly and with less likelihood of error.

The credit man and the accountant have much in common and much good can be derived from their close co-operation. It is always a great pleasure to practicing accountants to have credit men address them on subjects of mutual interest; it has been no less a pleasure to have had the honor of addressing you this evening.

Paper Group to Meet at Credit Convention

A conference of the Paper Supply and Allied Lines Trade Group, numbering about twenty-five credit department managers of paper supply and allied lines manufacturers and wholesalers will be one of thirty trade group gatherings which will feature the 32nd Annual Convention of the National Association of Credit men at Louisville, Ky., from June 6 to 10, it was announced recently by Dr. Frank A. Fall, manager of the education and research department of the association.

The Paper Supply and Allied Lines Group, under the chairmanship of C. G. Hesse, of the Lawrence Paper Manufacturing Company, Lawrence, Kan., and the other industry groups will meet Tuesday afternoon, June 7, according to Dr. Fall, who with E. B. Moran, of Chicago, manager of the trade group department of the association is in charge of arrangements for the sessions.

"With the growth of interest in the trade group movement, the trade group sessions, which were first held in 1924, have become an increasingly important part of the annual convention program," Dr. Fall said.

"Production and sales executives as well as credit department heads in many lines of industry are finding that close co-operation in credit matters within their own industry and with other concerns in allied lines of business is cutting down losses to a considerable extent.

"The purposes of the trade groups under the supervision of the National Association of Credit Men are to reduce credit losses, to better credit technique and to improve the organization of credit departments.

"Losses are reduced by the interchange of information which will prevent the pyramiding of credits and by working together to bring about the elimination of trade abuses which detract from profits.

"Among the functions of the trade group are the co-operative handling of embarrassed or insolvent estates, the concentration of claims in case of difficulty, the consolidation of ledger experience, and the standardization of terms and discounts.

"Another important phase of trade group work is the exchange of information concerning both credit and sales conditions, thus giving each member important data on which to base his business activity in all sections of the country."

Trade Marks Department

Conducted by National Trade-Mark Co., Washington, D. C.

The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, Paper Trade Journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

Transo, No. 227,608. Transo Envelope Company, Chicago, Ill. For mailing envelopes.

Pheasant, No. 243,729. The Tuttle Press Company, Appleton, Wis. For crepe paper.

Stanright, No. 243,998. The Cincinnati Art Publishing Co., Cincinnati, Ohio. For paper easel supports for art cards.

Ranger, No. 243,653. Holyoke Card & Paper Company, Springfield, Mass. For writing and printing paper.

Durapak, No. 243,827. The Paterson Parchment Paper Company, Pasaic, N. J. For paper employed as a lining for vegetable crates, cut flower containers, etc.

Water Weave, No. 243,950. Hooper Paper Company, Taylorville, Ill. For writing paper.

Silktex, No. 244,131. Adolph Bulova, New York City. For toilet paper.

Flintstone Blotting, No. 244,322. Rochester Paper Company, Rochester, Mich. For blotting paper.

Warrior Blotting, No. 244,323. Rochester Paper Company, Rochester, Mich. For blotting paper.

Wigwam Blotting, No. 244,324. Rochester Paper Company, Rochester, Mich. For blotting paper.

Consuco, No. 239,237. Construction Supplies Company of America, New York City. For paper towels and toilet paper.

Essex Flat Fold Crepe Paper with a fanciful background—No. 241,361. The Tissue Company, Saugerties, N. Y. For crepe paper for decorative purposes.

Chaindex.—No. 242,617. Rand Kardex Bureau, Inc., Tonawanda, N. Y. For blank and partially printed cards and forms for indexes, indexes consisting of blank or partially printed forms or cards, index cards of the articulated type, and case frames and holders for index cards.

A160, No. 242,750. Raynor & Perkins Envelope Company, New York City. For paper for writing and printing purposes and mailing envelopes.

1094, No. 242,749. Raynor & Perkins Envelope Company, New York City. For paper for writing and printing purposes and mailing envelopes.

Whitwyck Lawn, No. 243,179. White & Wyckoff Manufacturing Company, Holyoke, Mass. For writing paper and mailing envelopes.

Takes Over Fairbanks Scale Business

Fairbanks, Morse & Co., of Chicago, has taken over the scale business of the Fairbanks Company of New York. In 1916 Fairbanks-Morse purchased E. & T. Fairbanks & Co., with its scale factories at St. Johnsbury, Vt., and East Moline, Ill. The Fairbanks Company of New York, however, held the distributing rights for Fairbanks scales in the Eastern and Southern portions of the United States and abroad. The present transaction, therefore, gives Fairbanks-Morse complete control of the manufacturing and distribution of Fairbanks scales.

A scale manufacturing plant at Birmingham, England, as well as the London sales agency and all other sales agencies throughout the world, are included in the deal.

The history of Fairbanks scales, which began with the invention of the platform scale by Thaddeus Fairbanks of St. Johnsbury, Vt., in 1830, is one of the most interesting developments in American business. Previous to the invention of the platform scale, all weighing had been done with the old-fashioned steelyard.

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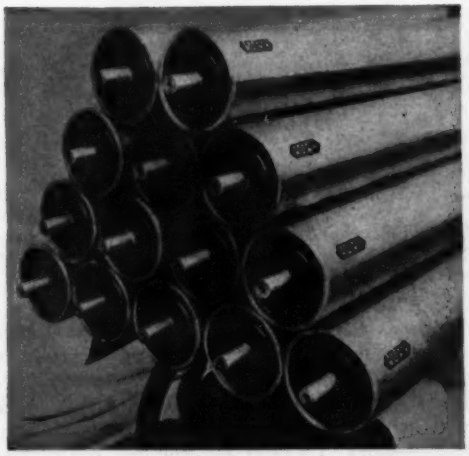

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Los Angeles, Cal.—The Angelus Paper Box Company, 755 North Broadway, has taken out a permit for the erection of its proposed new plant at 621-25 East Sixty-first street, and will proceed with work at once. It will be three-story, 100 x 150 feet, estimated to cost in excess of $80,000, with equipment. List of machinery to be installed has been arranged. The Austin Company of California, 777 East Washington street, designed the structure and has secured the general contract.

Humboldt, Tenn.—J. R. McFarland, care of the Southland Products Company, Inc., Humboldt, is at the head of a project to establish a local plant for the manufacture of paper and card stock from wood scrap and sawdust. It is proposed to investigate necessary machinery and to make purchases at an early date. The estimated cost of the new plant has not been announced.

Cleveland, Ohio—The Iten Fibre Company, 2359 East 67th street, has purchased property at East 93rd street and Beckman avenue, as a site for a new plant. Plans for the initial unit will be prepared at an early date. It is estimated to cost is excess of $35,000, with equipment. George W. Pelton, Cleveland, has secured the general building contract.

Meridan, Miss.—In connection with the establishment of a new local mill, the D. & W. Hosiery Mills, Inc., Ninth avenue and A street, plans the installation of a department for the manufacture of paper boxes for hosiery service, including shipping containers, etc. It is planned to purchase necessary machinery at an early date.

St. Louis, Mo.—The Central Paper Box Company, 2106 Walnut street, has filed plans for the construction of a proposed new two-story plant at 2227-29 Walnut street, for which a general contract recently was let to the Huger & Buecker Construction Company, Wainwright Building. The structure will be brick and concrete, 50 x 135 feet, and is reported to cost in excess of $30,000, with equipment. Foundations will be laid at an early date.

De Pere, Wis.—The De Pere Manufacturing Company will proceed with construction by day labor on its proposed new addition, including remodeling and improvements in the present factory. The new structure will be equipped as a beater department and for boiler room service. The entire project is estimated to cost about $30,000. A contract for a portion of the equipment has been let and awards for other requirements will be given out at an early date. Herman Miller is general manager.

Dunkirk, N. Y.—The Warder Paper Box Company, West Third street, has asked bids on general contract for the erection of its proposed new two-story factory on Courtney street, between Buckner street and Railroad avenue, and will award the work at an early date. The plant will be two-story, brick, estimated to cost in excess of $50,000, with equipment. A list of machinery to be installed has been arranged. C. R. Phelps, Gluck Building, Niagara Falls, N. Y., is architect. James H. Warder is president.

Eau Claire, Wis.—The Dells Paper and Pulp Company has awarded a general contract to Schafer & Olson, 124 Bridge street, Chippewa Falls, Wis., for proposed extensions and improvements in its plant, including the remodeling of Mill No. 1. The new extension will be two-story and part basement, and will be equipped for increase in output. The entire expansion is estimated to cost close to $50,000, excluding equipment, which will be handled separately. L. A. DeGuere, Wisconsin Rapids, Wis., is engineer. W. L. Davis is general manager.

Norwich, Conn.—H. Bridgeman Smith, head of the H. Bridgeman Smith Company, 487 Kent avenue, Brooklyn, N. Y., manufacturer of paper boxes and containers, is at the head of a new company to be known as the Bridgeman Machinery Company, to manufacture a new type of paper box-making machines. The company has negotiations under way with the Norwich Chamber of Commerce for the establishment of a local plant, reported to cost close to $50,000, with equipment. The Chamber of Commerce is securing local subscriptions to insure the project. It is proposed to begin work at an early date.

Philadelphia, Pa.—The proposed new plant addition to be constructed by the Progress Paper Box Manufacturing Company, 631 North 13th street, will be of three-story, brick type, estimated to cost close to $50,000, with equipment. Revised plans for the factory, which will be located on an adjoining site, are being prepared by Benjamin Shulman, 1722 Arch street, architect. It is proposed to ask bids on general contract at an early date. S. Bokowski is president.

Philadelphia, Pa.—Clark & Co., manufacturer of tags and kindred specialties, has leased a floor in the building at Montgomery avenue and Howard street, for a new plant. The company is now located at 1613 North Third street, and is reported to be planning to concentrate operations at the new location.

Camden, Ark.—The Southern International Paper Company, operated by the International Paper Company, 1 Pershing Square, New York, is reported to have work under way at its proposed new mill at Cullendale, about 2 miles from Camden. It will consist of a group of buildings, estimated to cost more than $3,500,000 with machinery.

San Francisco, Cal.—Officials of the Crown Williamette Paper Company, 248 Battery street, are said ot have perfected arrangements for the organization of a subsidiary company to be known as the Canadian Crown Willamette Paper Company to carry out its proposed project on the Campbell River near Victoria, B. C., consisting of a paper and pulp mill, and large hydro-electric power plant, ot cost more than $25,000,000, complete.

Limoilou, Que.—The Anglo Canadian Pulp and Paper Company, an interest of the Gulf Pulp and Paper Company, 71 St. Peter street, Quebec, Que., has awarded a contract for millwork and kindred construction to O. Chalifour, Inc., Quebec, in connection with its new local pulp and paper mill, on which work is now in progress. The entire plant is reported to cost more than $10,000,000, with machinery.

New Companies, Etc.

New York, N. Y.—Julius Blumberg, Inc., has been incorporated with capital of $50,000, to manufacture paper and paper products. The incorporators are J. Blumberg, L. Zigman and B.

(*Continued on page 78*)

TYPE "B" IRON EXTRACTOR

It consists of special magnetic surfaces of great power over which the paper stuff is made to pass. As a result, all the iron and many other foreign substances are completely extracted. Hundreds of these devices are in use daily and no one of them has failed to give complete satisfaction. Write us for Bulletins and full details.

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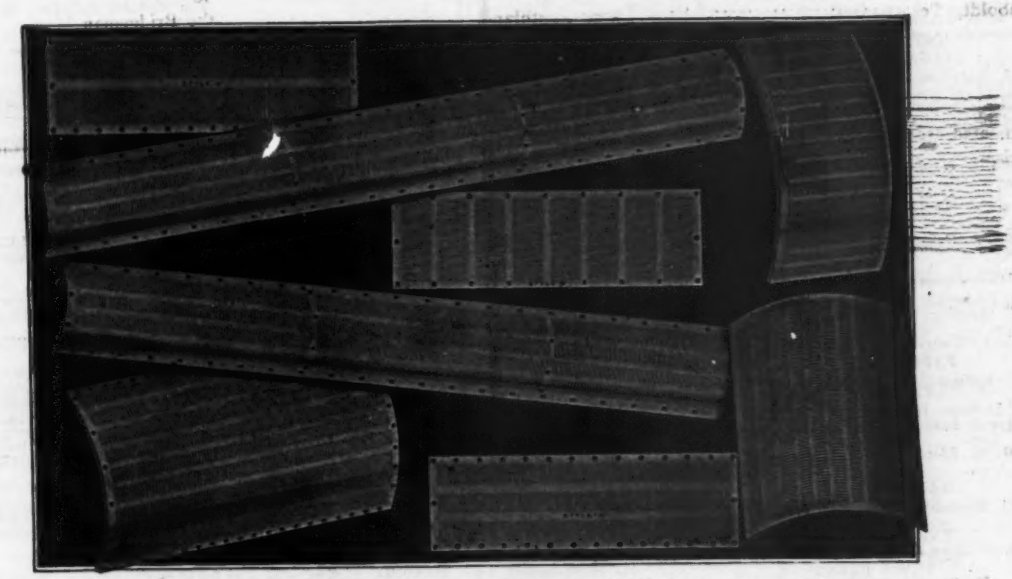
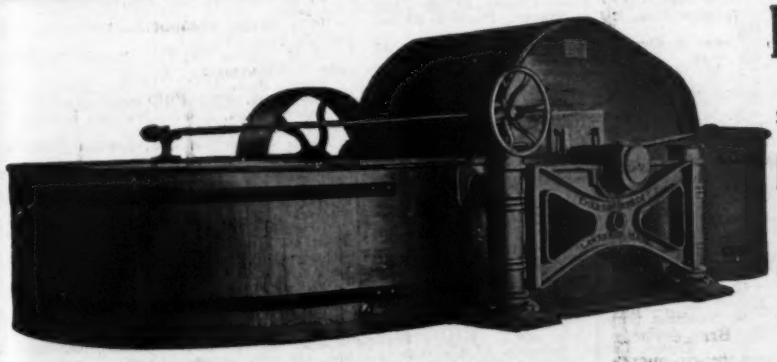
Electrical Specialists. ***Established 1885***

WILLIAM A. HARDY & SONS CO.



FITCHBURG, MASSACHUSETTS, U. S. A.



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LAWRENCE, MASS.

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EMERSON BEATING ENGINES

They seldom wear out and are never thrown out. PERFECT CIRCULATION. NO "PADDLING."

The "EMERSON" JORDAN

is made in several sizes, both belt and direct connected motor-drive.

WRITE FOR DETAILS

Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING APRIL 2, 1927

SUMMARY

Cigarette paper .....455 cs.
Wall paper .....134 bls., 9 cs.
Paper hangings .....35 bls., 10 cs.
Hanging paper .....7 cs.
Painted paper .....6 bls.
News print .....4,856 rolls
Printing paper .....22 cs.
Wrapping paper .....517 pkgs., 2 cs.
Packing paper .....5 cs.
Kraft paper .....6 bls.
Pergamyn paper .....34 cs.
Writing paper .....27 cs.
Tissue paper .....10 cs.
Filter paper .....137 bls., 26 cs.
Tracing paper .....1 cs.
Decalcomania paper .....45 cs.
Surface coated paper .....78 cs.
Telegraph paper .....11 cs.
Transfer paper .....5 cs.
Cover paper .....7 cs.
Stencil paper .....34 cs.
Straw pulp board .....244 rolls
Straw board .....1,132 rolls
Typon paper .....2 cs.
Paper tubes .....11 cs.
Miscellaneous paper....1,827 rolls, 579 bls., 98 cs.

CIGARETTE PAPER

R. J. Reynolds Tobacco Co., Vincent, Havre, 200 cs.
Standard Products Corp., Vincent, Havre, 51 cs.
Standard Products Corp., Suffren, Havre, 72 cs.
P. J. Schweitzer, Pres. Harrison, Marseilles, 112 cs.
Liggett & Myers Tobacco Co., France, Havre, 20 cs.

WALL PAPER

W. H. S. Lloyd & Co., Carmania, Liverpool, 7 bls.
Rohner & Georg Co., Pennland, Antwerp, 74 bls.
Gallagher & Ascher, Westphalia, Hamburg, 6 bls.
F. J. Emmerich, Westphalia, Hamburg, 20 bls.
Globe Shipping Co., Westphalia, Hamburg, 27 bls., 2 cs.
F. Blank, Westphalia, Hamburg, 7 cs.

PAPER HANGINGS

A. C. Dodman, Jr., Inc., Carmania, Liverpool, 3 bls.
A. C. Dodman, Jr., Inc., Baltic, Liverpool, 6 bls.
Whiting & Patterson Co., Inc., Majestic, Southampton, 3 cs.
W. H. S. Lloyd & Co., Norwegian, London, 26 bls., 7 cs.

HANGING PAPER

Hensel, Bruckman & Lorbacher, France, Havre, 7 cs.

PAINTED PAPER

W. H. S. Lloyd & Co., France, Havre, 6 bls.

NEWS PRINT

Hudson Trading Co., Baltic, Stockholm, 87 rolls.
Parsons & Whittemore, Inc., Baltic, Hango, 483 rolls.
Parsons & Whittemore, Inc., Pres. Harding, Bremen, 228 rolls.
Osian Ray, Stockholm, Gothenburg, 79 rolls.
H. Reeve Angel & Co., Inc., Stockholm, Gothenburg, 13 rolls.
M. Gottesman & Co., Inc., Stockholm, Gothenburg, 159 rolls.
Perkins, Goodwin & Co., Westphalia, Hamburg, 839 rolls.
F. Henjes, Jr., Westphalia, Hamburg, 62 rolls.
The Star Co., Carlsholm, Hallstavik, 2,906 rolls.

PRINTING PAPER

C. Steiner, Gaasterdyk, Rotterdam, 15 cs.
Japan Paper Co., Gaasterdyk, Rotterdam, 5 cs.
Perkins, Goodwin & Co., Westphalia, Hamburg, 2 cs.

WRAPPING PAPER

Birn & Wachenheim, Pennland, Antwerp, 2 cs.
Globe Shipping Co., Pennland, Antwerp, 517 pkgs.

PACKING PAPER

Quality Art Novelty Co., Westphalia, Hamburg, 5 cs.

KRAFT PAPER

Borough Paper Co., Stockholm, Gothenburg, 6 bls.

PERGAMYN PAPER

F. C. Strype, Westphalia, Hamburg, 21 cs.
E. V. Hadley, Westphalia, Hamburg, 13 cs.

WRITING PAPER

Stern Bros., Vincent, Havre, 5 cs.
R. H. Stearns & Co., Vincent, Havre, 2 cs.
F. C. Strype, Majestic, Southampton, 7 cs.
Globe Shipping Co., Majestic, Southampton, 4 cs.
Japan Paper Co., Majestic, Southampton, 2 cs.
Guibout freres, France, Havre, 7 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., Carmania, Liverpool, 10 cs.

FILTER PAPER

J. Manheimer, Majestic, Southampton, 106 bls.
H. Reeve Angel & Co., Inc., Majestic, Southampton, 31 bls., 4 cs.
H. Reeve Angel & Co., Inc., American Shipper, London, 22 cs.

TRACING PAPER

Winsor Newton, Inc., American Shipper, London, 1 cs.

DECALCOMANIA PAPER

C. W. Sellers, Pres. Harding, Bremen, 2 cs.
L. A. Consmiller, Pres. Harding, Bremen, 15 cs.
B. F. Drakenfeld & Co., Carmania, Liverpool, 11 cs. (simplex).
B. F. Drakenfeld & Co., Carmania, Liverpool, 17 cs. (duplex).

SURFACE COATED PAPER

Gevaert Co. of America, Pennland, Antwerp, 64 cs.
Whiting & Patterson Co., Inc., Westphalia, Hamburg, 11 cs.
Globe Shipping Co., Westphalia, Hamburg, 3 cs.

TELEGRAPH PAPER

Phila. Paper Manfg. Co., Carrillo, Cristobal, 11 cs.

TRANSFER PAPER

Sinclair Valentine Co., Westphalia, Hamburg, 5 cs.

COVER PAPER

International Forwarding Co., Westphalia, Hamburg, 7 cs.

STENCIL PAPER

Arlac Dry Stencil Co., Westphalia, Hamburg, 33 cs.
Roneo, N. Y., American Shipper, London, 1 cs.

STRAW PULP BOARD

J. P. Heffernan Paper Co., Gaasterdyk, Rotterdam, 244 rolls.

STRAW BOARD

Perkins, Goodwin & Co., Gaasterdyk, Rotterdam, 357 rolls.
Haas Bros., Gaasterdyk, Rotterdam, 146 rolls.
A. Vuyk, Gaasterdyk, Rotterdam, 629 rolls.

TYPON PAPER

Globe Shipping Co., Majestic, Southampton, 2 cs.

PAPER TUBES

H. de Maguinn, France, Havre, 11 cs.

MISCELLANEOUS PAPER

S. Gilbert, Gaasterdyk, Rotterdam, 11 cs.
Arkell Safety Bag Co., Stockholm, Gothenburg, 50 bls., 188 rolls.
C. J. O'Shea, Stockholm, Gothenburg, 51 bls.
The Borregaard Co., Inc., Stockholm, Gothenburg, 78 bls., 1,639 rolls.
E. H. Sergeant Co., Stockholm, Gothenburg, 3 cs.
C. H. Boulin, Suffren, Havre, 37 cs.
Hensel, Bruckman & Lorbacher, Suffren, Havre, 12 cs.
Coenca, Morrison & Co., Suffren, Havre, 4 cs.
Japan Paper Co., Suffren, Havre, 14 cs.
P. Puttman, Suffren, Havre, 13 cs.
Elwin Walker, Westphalia, Hamburg, 400 bls.
F. L. Kramer & Co., Norwegian, London, 4 cs.

RAGS, BAGGINGS, ETC.

State Bank, Coer d'Alene, Piraeus, 207 bls. rags.
Salomon Bros. & Co., Vincent, Dunkirk, 78 bls. rags.
Castle & Overton, Inc., Vincent, Dunkirk, 45 bls. rags.
J. M. Jaffe, Vincent, Havre, 31 bls. rags.
S. Birkenstein & Sons, Ossa, Casablanca, 126 bls. rags.
A. W. Fenton, Inc., Pres. Harding, Bremen, 93 bls. rags.
E. J. Keller Co., Inc., Pres. Harding, Bremen, 23 bls. linen threads.
Chase National Bank, Pres. Harding, Bremen, 36 bls. rags.
B. D. Kaplan & Co., Pres. Harding, Bremen, 41 bls. rags.
V. Galaup, Savoia, Naples, 56 bls. rags.
Mutnick Bros., Carmania, Liverpool, 30 bls. rags.
E. Butterworth & Co., Inc., Baltic, Liverpool, 155 bls. bagging.
Darmstadt, Scott & Courtney, Cold Harbor, Manchester, 5 bls. new cuttings.
M. Snedeker Corp., Cold Harbor, Belfast, 145 bls. paper stock.
B. D. Kaplan, Carlier, Antwerp, 15 bls. rags.
S. B. Mandel Co., Agwidale, Vera Cruz, 489 bls. rags.
American Express Co., Norwegian, London, 36 bls. rags.
R. Canovi Figli, Nobles, Leghorn, 299 bls. rags.
Equitable Trust Co., Nobles, Palermo, 150 bls. rags.
A. H. Searle, Inc., American Shipper, London, 88 bls. bagging.
A. H. Searle, Inc., American Shipper, London, 22 bls. rags.
Brown Bros. & Co., American Shipper, London, 81 bls. rags.
E. J. Keller Co., Inc., Liverpool Maru, Oran, 208 bls. rags.
E. J. Keller Co., Inc., Liverpool Maru, Oran, 203 bls. bagging.
Robert Blank, Collamer, Bordeaux, 64 bls. rags.

OLD ROPE

W. Steck & Co., Gaasterdyk, Rotterdam, 56 bls.
Brown Bros. & Co., Chicago City, Bristol, 63 coils.
E. J. Keller Co., Inc., Liverpool Maru, Oran, 60 bls.

MANILA HEMP ROPE

Manufacturers Trust Co., Pres. Harrison, Manila, 134 pkgs.

MANILA ROPE

The Burrahel Co., Inc., Baltic, Liverpool, 24 pkgs.
The Burrahel Co., Inc., Majestic, Southampton, 15 pkgs.
Ellermans' Wilson Line, Norwegian, London, 65 coils.
Ellermans' Wilson Line, American Shipper, London, 30 coils.

HEMP ROPE

G. A. Vedovie & Co., Pres. Harrison, Genoa, 110 bls.
N. Y. Cordage Co., Carmania, Liverpool, 80 pkgs.
National City Bank, Carmania, Liverpool, 104 pkgs.

CHINA CLAY

L. A. Salomon & Bros., Chicago City, Bristol, 165 casks.

WOOD PULP

Price & Pierce, Ltd., Malaren, Gothenburg, 1,150 bls. wood pulp.
Bulkley, Dunton & Co., Stockholm, ——, 125 bls. sulphite.
E. M. Sergeant & Co., Stockholm, Gothenburg, 299 bls. dry soda pulp.
E. M. Sergeant & Co., Stockholm, Gothenburg, 604 bls. sulphite.
Johanson, Wales & Sparre, Inc., Stockholm, Gothenburg, 146 bls. dry soda pulp.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 989 bls. sulphite, 196 tons.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 508 bls. kraft pulp, 101 tons.
D. M. Hicks, Inc., Westphalia, Hamburg, 152 bls. wood pulp, 25 tons.
Buck, Kiaer & Co., Inc., Tyrifjord, Oslo, 2,500 bls. sulphite.

WOOD FLOUR

H. J. Baker & Bros., Gaasterdyk, Rotterdam, 300 bags.

CASEIN

Kalbfleisch Corp., Western World, Buenos Aires, 1,551 bags.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 2, 1927

J. W. Hampton, Jr., & Co., Chicago City, Bristol, 51 tons, 18 cwt. china clay.
E. A. Stone & Co., Inc., Savoia, Naples, 456 bls. rags.
Phila. Girard National Bank, Savoia, Leghorn, 42 bls. rags.
G. M. Graves Co., Inc., London Mariner, London, 172 bls. rags.
Brown Bros. & Co., London Mariner, London, 178 bls. rags.
Robert Blank, London Mariner, London, 95 bls. rags.
Castle & Overton, Inc., London Mariner, London, 115 bls. rags.
A. Murphy & Co., London Mariner, London, 4 cs. writing paper.
Fidelity Int'l Trust Co., Nobles, Palermo, 169 bls. rags.
Guaranty Trust Co., Carlsholm, Gothenburg, 1,000 bls. sulphite pulp.
Parsons & Whittemore, Inc., Carlsholm, Gothenburg, 150 bls. wood pulp.
Wilder Bros., Carlsholm, Gothenburg, 41 bls., 355 rolls wrapping paper.
Quaker City Paper Co., Carlsholm, Gothenburg, 9 bls., 291 rolls wrapping paper.
Paper Manfg. Co., Carlsholm, Gothenburg, 42 bls., 158 rolls wrapping paper.

(Continued on Page 74)

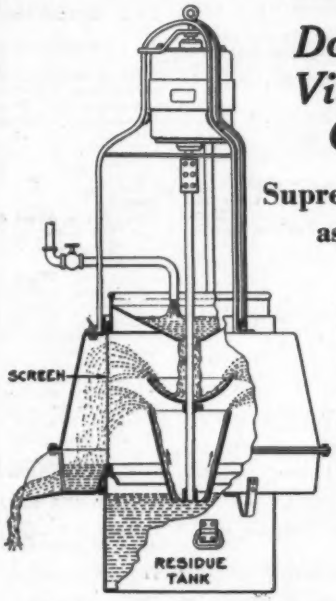
TABLETS

Manufacturers of

Correspondence Tablets
School Tablets
Pencil Tablets
Composition and Note Books
Loose Leaf Papers
Note Book Covers

OSBORN PAPER COMPANY
Marion, Indiana

The "ROTOSPRAY"
CLAY SIFTER



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West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED and MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, High Grade Coated Book, Index Bristol, Post Card, Kraft and Label Papers

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Bleached Spruce Sulphite and Soda, Kraft Pulp

200 Fifth Avenue, New York — 732 Sherman Street, Chicago
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Sixth and Chestnut Sts., Philadelphia, Pa.

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INCORPORATED
200 FIFTH AVENUE
NEW YORK

FOREIGN AND DOMESTIC
PAPER MAKERS' SUPPLIES
COTTON, JUTE AND FLAX WASTES
WOOD PULP AND RAG PULP

SOLE AGENTS IN AMERICA FOR
ETTLINGEN MITSCHERLICH UNBLEACHED SULPHITE
ROSENBERGER BLEACHED SULPHITE
ZILINA BLEACHED SULPHITE
STAFFEL RAG PULP
BLEACHED AND UNBLEACHED

Imports of Paper and Paper Stock

(Continued from page 72)

Bulkley, Dunton & Co., Malaren, ——, 1,030 bls. wood pulp.
Robert Blank, Saucon, Leghorn, 78 bls. rags.
Castle & Overton, Inc., Mexican, San Francisco, 140 bls. rags.
Castle & Overton, Inc., Burgerdyk, Holland, 120 bls. rags.

BOSTON IMPORTS

WEEK ENDING APRIL 2, 1927

Harrington, King & Co., Pres. Harrison, Manila, 105 coils rope.
Upson, Walton Co., Pres. Harrison, Manila, 305 pkgs. rope.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 5,207 bls. kraft pulp, 1,270 tons.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 463 bls. sulphate, 92 tons.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 3,039 bls. sulphite, 605 tons.
Perkins, Goodwin & Co., Minnequa, Gothenburg, 6,582 bls. sulphate, 1,114 tons.
Pagel, Horton & Co., Inc., Minnequa, Gothenburg, 2,000 bls. sulphite, 203 tons.
Castle & Overton, Inc., Dorelian, England, 49 bls. waste paper.
Robert Blank, Mississippi, London, 125 bls. rags.
Bulkley, Dunton & Co., Boschdyk, ——, 138 bls. wood pulp.
Bulkley, Dunton & Co., West Campgaw, ——, 540 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING APRIL 2, 1927

Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 3,556 bls. kraft pulp, 711 tons.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 1,098 bls. sulphite, 219 tons.
Pagel, Horton & Co., Inc., Minnequa, Gothenburg, 1,000 bls. sulphite, 101 tons.
Scandinavian Pulp Agency, Inc., Carlsholm, Norrkoping, 1,250 bls. sulphate.
Atterbury Bros., Inc., Carlsholm, Halmstad, 2,000 bls. sulphite.
Parsons & Whittemore, Inc., Carlsholm, Halmstad, 500 bls. sulphite.
J. Anderson & Co., Carlsholm, Gothenburg, 125 bls. sulphite.
Johanson, Wales & Sparre, Inc., Carlsholm, Gothenburg, 1,046 bls. dry soda pulp.
Johanson, Wales & Sparre, Inc., Carlsholm, Gothenburg, 700 bls. sulphite.
E. M. Sergeant & Co., Carlsholm, Gothenburg, 508 bls. sulphite.
E. M. Sergeant & Co., Carlsholm, Gothenburg, 597 bls. dry soda pulp.
Parsons & Whittemore, Inc., Carlsholm, Gothenburg, 1,200 bls. sulphite.
Bulkley, Dunton & Co., Eastern Dawn, ——, 600 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING APRIL 2, 1927

Lagerloef Trading Co., Minnequa, Hango, 802 bls. wood pulp boards, 174 tons.
Old Dominion Paper Co., Minnequa, Hango, 21 bls., 66 rolls paper.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 762 bls. sulphite, 151 tons.
Scandinavian Pulp Agency, Inc., Minnequa, Gothenburg, 1,016 bls. sulphate, 203 tons.
M. Gottesman & Co., Inc., Minnequa, Gothenburg, 1,200 bls. sulphite, 203 tons.
Scandinavian Pulp Agency, Inc., Carlsholm, Norrkoping, 1,250 bls. sulphate.
The Citizen Co., Carlsholm, Gothenburg, 42 rolls news print.
The News Publishing Co., Carlsholm, Gothenburg, 81 rolls news print.
E. M. Sergeant & Co., Carlsholm, Gothenburg, 508 bls. sulphite.
The Borregaard Co., Inc., Carlsholm, Gothenburg, 2,000 bls. wood pulp.
Buck, Klaer & Co., Inc., Louisiana, Oslo, 200 bls. sulphite.
E. J. Keller Co., Inc., West Eldara, Rotterdam, 77 bls. rags.

NEW ORLEANS IMPORTS

WEEK ENDING APRIL 2, 1927

Castle & Overton, Inc., De la Salle, France, 362 bls. rags.
Castle & Overton, Inc., Vogesen, Germany, 156 bls. rags.
E. J. Keller Co., Inc., K. I. Luckenbach, Kobe, 60 bls. rags.

West Virginia Pulp & Paper Co. Buys Land

GLOVERSVILLE, N. Y., April 4, 1927.—One of the largest transfers of real property that has taken place in Fulton county in years was consummated yesterday afternoon, and this morning a deed was filed in the office of County Clerk E. T. Cross, covering the sale by the Dodge Clothespin Company to the West Virginia Pulp and Paper Company, of 8,500 acres of land in the Town of Stratford. The consideration involved could not be learned.

The deed was filed by Attorney Fayette E. Moyer of this city, who returned yesterday afternoon from a business trip to New York and Philadelphia, in connection with this transfer. He is a representative of the pulp and paper company. Mr. Moyer when interviewed during the morning, said no announcement has been made as yet regarding the future plans of the West Virginia company for the use of its newly acquired property.

Hex-Top Grease Cups With Alemite Fittings

Of genuine interest to all manufacturers whose processes or fabrication require the use of grease cups, should be the announcement of Link-Belt Company, of Chicago, Indianapolis, and Philadelphia, which describes their new "Hex-Top" malleable iron compression grease cup with Alemite, or Zerk fittings.

The trade name "Hex-Top" describes very aptly the shape of the grease cup head. Six-sided, it offers, for turning, an easy purchase for any type of wrench, and a good grip for the hand.

The combination of compression grease cup and Alemite fitting is a distinct improvement over either article used separately.

An example of this would be in the lubricating system of a long belt conveyor using many grease cups for the idlers: here the easiest, quickest, and most economical way to fill all the cups at one time, it is said, is with a grease gun applied to the Alemite fitting, when the cap is turned up to a high point, but not entirely unscrewed or removed.

The filling can be done without waste of grease, and without any inconvenience; the cup holds a good reserve for use of the compression feature; and an occasional slight screwing down by hand or wrench is all that is necessary until it is time to have a general refilling of the cups.

If a bearing gets warm when the grease gun is not at hand, a turn or so of the cap takes care of the emergency.

The fact, moreover, that the cup may be readily filled in even the most inaccessible places—for relegation to such locations seems to fall to the lot of the lowly grease cup—is due to just as great an extent to the "Hex-Top" head as to its fittings.

Third Volume of Textbooks Revised

The Joint Executive Committee on vocational education in the paper industry of North America has just completed the revision of the third volume of the series on "Manufacture of Pulp and Paper," and will now proceed to revise the fourth and fifth volumes.

The third volume, dealing with the Manufacture and Treatment of Wood Pulp, was issued in 1922 so that five years have elapsed since its publication. In the revision the work has been enlarged and additions made covering the new developments as to process and equipment that have become commercial in the intervening period.

The section on Bleaching has been entirely rewritten by H. H. Hanson in collaboration with A. H. Hooker, Jr., and brought up to date.

The volume is one that should have a wide sale in the industry.

Changes at Union Bag and Paper Plants

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., April 4, 1927.—Several transfers have been announced by the Union Bag and Paper Corporation. Richard Darson, chemist, who has been employed for some time past at the Union Bag labratory here, has been transferred to the company's plant at Kaukauna, Wis., and left Hudson Falls early this week to assume the duties of his new position. The transfer is a promotion for Mr. Darson in recognition of his valuable service during his connection with the local plant.

Edward J. Hogan, who has been a member of the executive force has also been transferred to Wisconsin and with Mrs. Hogan left during the week to take up their residence in Kaukauna.

1864 1927

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America.

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

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CAMDEN, MAINE

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75-77 Duane St., N. Y., and direct

Import Credits

Complete facilities for opening letters of credit in Scandinavia to finance importations of wood-pulp and paper.

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A History of Paper Manufacturing in the United States

By LYMAN HORACE WEEKS

Author of "An Historical Digest of the Provincial Press," "Legal and Judicial History of New York," "Prominent Families of New York," "Book of Bruce," etc., etc.

A comprehensive story of the paper making industry in this country from its small beginnings in 1690. All the material facts gathered into one complete, compact narrative. Illustrated.

$3.00 net—*Order from the publishers*

LOCKWOOD TRADE JOURNAL CO.

10 East 39th St., New York City

New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, April 6, 1927.

The tendency of the local paper market continues strong, and the demand for the various grades is excellent. Prices are generally being well maintained and shading is infrequent. Sales organizations of the leading paper houses are, on the whole, satisfied with the volume of business being transacted, and conditions compare favorably with the corresponding period of last year.

Demand for news print is keeping up very well, and advertising and circulation figures of the leading newspapers continue to expand. While the production at present is higher than ever, the output is being readily absorbed. Shipments against contract are moving into consumption at a satisfactory pace.

The various grades of paper board continue in good request and quotations are steady to firm. The volume of inquiries being received for future business is encouraging. All grades of fine paper are in steady demand at formerly quoted prices. Sales of coarse paper are being well maintained and prices show no signs of weakening.

Mechanical Pulp

Easier conditions have developed in the ground wood market. With weather conditions more favorable, production has expanded, and supplies are ample for current needs. No. 1 moist imported mechanical pulp is now quoted at from $32 to $34, and dry at from $34 to $36, ex dock. No. 1 domestic ground wood is still selling at from $27 to $30.

Chemical Pulp

Conditions in the chemical pulp market are practically unchanged, and with both foreign and domestic mills sold well ahead, prices remain steady. Some good sized orders have been booked lately, and a more active period is anticipated in the near future. Mitcherlich unbleached is now selling at from $2.80 to $3.40, ex dock, Atlantic ports, a slight decline, but all other grades are unchanged.

Old Rope and Bagging

Old rope and bagging are in improved demand from the paper mills, and prices are somewhat firmer. Heavy wool tares and bright bagging are particularly strong and are now quoted at from 1.75 to 1.85 and 1.60 to 1.70 respectively. Foreign manila rope is also in better request, and is now quoted at from 3.75 to 4.00.

Rags

The paper mills are beginning to display a little more interest in the rag market. Old domestic rags are in excellent demand at firm prices. Fancy shirt cuttings have advanced to from 5.50 to 6.00, and new soft black to from 5.25 to 5.75. The foreign rag market is also more lively, and quotations of many of the grades are much firmer.

Waste Paper

Low grades of waste paper are in better request from the board mills, and prices are somewhat steadier. The paper mills at present are not displaying very much interest in the higher grades, but the market may be due for an improvement shortly, when many of the mills are forced to replenish their stocks. Prices of the higher grades are practically unchanged.

Twine

Not much change has transpired in the twine market of late, but with the demand for wrapping paper heavy, due to Easter and spring requirements, the trend of the twine market is strong. Prices are holding up very well, and most observers of the market are optimistic regarding the future.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 5, 1927.—The Government Printing Office has received the following bids for 36,000 pounds of various sizes binders board: Barton, Duer & Koch Paper Company, at $122.40 per ton; The Davey Company, $125.00; Whitaker Paper Company, $125.00; R. C. Osborn & Co., $119.80; Dobler & Mudge, $116.00; and Mathers-Lamm Paper Company, $95.00.

The Government Printing Office has received the following bids for 6,000 pounds of 10½x29 buff antique cover paper, deckle edge: R. P. Andrews Paper Company, at 33.6 cents per pound; Dobler & Mudge, 30 cents; Stanford Paper Company, 32 cents; and B. F. Bond Paper Company, 32 cents.

The Government Printing Office will receive bids on April 11 for 45,000 pounds (23,400 sheets) of various sizes No. 2 quality binders board.

Bids will be received by the Post Office Department on April 28 for envelopes for the department and other executive departments for the fiscal year beginning July 1. The department is calling for bids for 155,000,000 envelopes for the Post Office Department and for 250,000,000 for the use of other executive departments.

U. S. Chamber of Commerce to Meet May 2

A distinguished list of speakers, including President Coolidge and Secretary of Commerce Hoover, will address the Fifteenth Annual Meeting of the Chamber of Commerce of the United States which will be held in Washington, May 2 to 5.

This national gathering of business leaders from all parts of the United States has been called for the purpose of discussing the important economic changes that have taken place in the business life of the nation during the past few years. The discussions will center around the major topic, "The New Business Era."

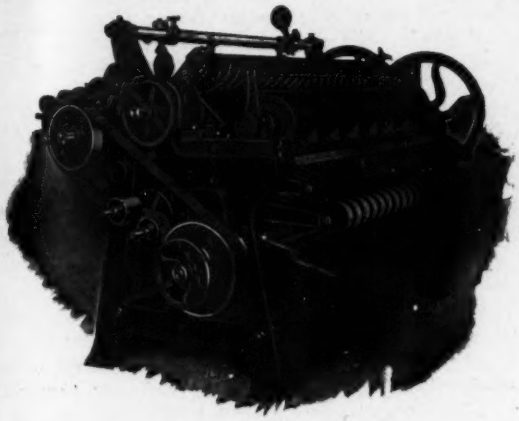
President Coolidge's talk will be delivered before a joint meeting of the National Chamber and the Pan-American Commercial Conference. The latter conference will be attended by representatives from the Latin-American countries and will be held in Washington during the week of the meeting of the National Chamber.

Oxwelding in the Paper Industry

The March issue of Oxy-Acetylene Tips for the Linde Oxwelder contains a lengthy and comprehensive article describing Oxwelding in the Paper Industry, from Wood Room to Fourdrinier. This article, which is profusely illustrated, gives a general idea of the savings that have already been made in the paper industry through application of the oxy-acetylene process. It is claimed that the ultimate savings are limited only by the foresight of the management and the ability and ingenuity of the welding organizations at the mills.

Paper Cutters

Single, Duplex and Diagonal



CUTTER KNIVES PATENT TOP SLITTER

HAMBLET MACHINE CO.

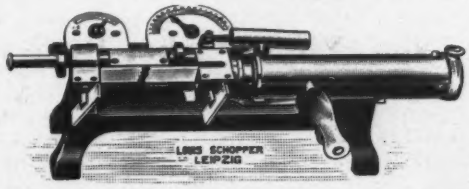
LAWRENCE MASS.

FOR STRENGTH AND STRETCH

SCHOPPER

RAPID PAPER TESTER

Accurately Gives Strength and Stretch of Any Kind of Paper



Invaluable to the Paper Maker in the Machine Room. Special Folder Giving Full Description for the Asking.

"Schopper" Micrometers, Tensile Testers, Folding Testers, Freeness Testers

The World's Standard Instruments

FOREIGN PAPER MILLS, INC.

72 DUANE ST. NEW YORK

Sole Agents for United States and Canada

SHIPPING INSURANCE

The Use of

ELIXMAN CORES

protects your rolls and insures their delivery to your customer in perfect condition. They eliminate claims for damages.

SHIPPING INSURANCE

Your two sources of supply are

Canadian Elixman Company HAMILTON, ONTARIO

Elixman Paper Core Company CORINTH, N. Y.

Each gate valve gets a double testing

Sectional view Fig. 370, screwed. Jenkins Standard Bronze Gate Valve

A Jenkins Gate Valve is tested on each side of the double-faced wedge. It must make good in this double testing under higher-than-recommended pressures before it is allowed to leave the Jenkins factory.

Jenkins Gate Valves are furnished in bronze and iron—in standard, medium and extra heavy patterns. They are typical Jenkins Valves in that they are made for maximum service, not merely the average.

At supply houses everywhere.

JENKINS BROS.

80 White Street.....New York, N. Y.
524 Atlantic Avenue.....Boston, Mass.
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JENKINS BROS., Limited
Montreal, Canada London, England

Always marked with the "Diamond"

Jenkins Valves

SINCE 1864

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, April 6, 1927.

Trading in the local chemical market continued active during the past week. Shipments against standing contract are still moving at a steady pace. Production of the various chemical products is being maintained at practically full capacity in order to cope with the prevailing demand. Prices are holding up to schedule very well and there is little talk about concessions.

BLANC FIXE.—There is an excellent inquiry for both the pulp and the powder for immediate shipment. Contract withdrawals are being maintained in a satisfactory manner. Prices remain unchanged. The pulp is quoted at $60 per ton, in bulk, and the powder is selling at from 4 cents to 4¼ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness continues to prevail in the bleaching powder market. Supplies are moving into consumption at a normal rate. Quotations are unaltered. Bleaching powder is still quoted at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity, and grade.

CASEIN.—During the past week the casein market exhibited more liveliness and with accumulations reported to be rather scarce, prices became firmer. Imported casein is now offered at from 18 cents to 18½ cents per pound, while domestic casein has advanced to from 17 cents to 18¼ cents a pound, all in bags, car lots quantities.

CAUSTIC SODA.—Supplies of caustic soda are going forward in excellent volume. The demand for this product is persistent, while prices are gradually becoming more stable than for some time past. Caustic soda is quoted at from $3 to $3.10 per 100 pounds, in large drums, at works. Spot car lots are offered at $3.20 per 100 pounds.

CHINA CLAY.—The China clay market is practically unchanged. Most of the business transacted during the past week was along routine lines. The spot market remains quiet. Domestic washed clay is quoted at from $8 to $9 a ton, at mine, and pulverized at $10 a ton. Imported China clay is selling at from $15 to $25 a ton, in bulk, ship side.

CHLORINE.—The position of the chlorine market is satisfactory. Production is proceeding at practically full capacity and is being readily absorbed. Prices remain unchanged. The quotation on chlorine is 4 cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation is from 4¼ cents to 4½ cents a pound.

ROSIN.—Paper markers' rosin was in better request during the past week. While prices continue to fluctuate, many observers of the market are optimistic over the future trend. At the naval stores, the grades of gum rosin used in the paper mills are now offered at from $10.85 to $11.30 per 280 pounds, ex dock, in barrels. Wood rosin is still quoted at $9.50 per 280 pounds, at southern shippings points.

SALT CAKE.—Demand for salt cake is steady and inquiries regarding future business are being received in excellent volume. Prices are holding well up to schedule. Salt cake is still quoted at from $18 to $20 a ton, in bulk, at works. Chrome salt cake is selling at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—Contract shipments of soda ash have been unusually large of late. The market is exhibiting a sound undertone and the schedule of prices is being well maintained. Contract quotations of soda ash, in car lots, at works, are as follows: in bulk, $1.32½, and in barrels, $1.57½.

STARCH.—Consumption of starch has been fairly steady recently and production is being maintained at practically full capacity in most of the plants. No changes have been recorded in the price levels of late. Special paper makers' starch is still being offered at $3.22 per 100 pounds, in bags, and at $3.39 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Conditions in the sulphate of alumina market are little changed. Trading during the past week was rather light, due to the fact that most consumers appear to have covered their immediate requirements. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.45 per 100 pounds, in bags, at works in car lots. The iron free is selling at from $2 to $2.05 per 100 pounds, at works.

SULPHUR.—No radical changes were recorded in the sulphur market during the past week. This product continues in steady demand, while quotations hold up to schedule in an excellent manner. The grades of sulphur used in the paper mills are still quoted at from $18 to $19 a ton, in bulk, at mine.

TALC.—The talc market remains practically unchanged. The manufacturers are experiencing a normal demand for this product and prices are holding up well to formerly quoted levels. American talc is quoted at from $16 to $18 a ton, at eastern mines. French talc is selling at from $18 to $22 a ton, ship side.

CONSTRUCTION NEWS

(*Continued from page 70*)

Sugar. Representative: Morris & Morris, 154 Nassau street, New York.

Baldwinsville, N. Y.—The National Cellulose Corporation, has been incorporated with capital of 100,000 shares of preferred stock, and 2,500 shares common stock, to manufacture pulp products. The incorporators are K. Wandel, J. J. Sullivan and A. Nelson. Representative: Emanuel Harris, 47 West 34th street, New York.

Hackensack, N. J.—C. Gaeta & Son, Inc., has been incorporated with capital of $25,000, to deal in paper and paper specialties. The incorporators are C. Gaeta, L. De Lorenzo and D. de Crosta. Representative: N. D. Campbell, 128 Main street, Hackensack.

New York, N. Y.—Cellograss Association, Inc., has been incorporated with capital of $10,000, to manufacture paper and pulp products. Incorporators: J. Mather, J. A. Power and G. Adie. Representative: J. A. Bolles, 522 Fifth avenue, New York.

Green Bay, Wis.—The American Tablet and Stationery Company has been incorporated, capital not stated, to deal in writing papers. The incorporators are H. Forberg, W. J. Bertrand and B. L. Park, Bellin Building. The company is represented by North, Parker, Bie & Welsh, attorneys, Green Bay.

Chicago, Ill.—The Midwest Label Company, 214 West Kinzie street, has been incorporated with capital of $20,000, to manufacture and deal in paper labels, etc. The incorporators are Charles J. Calderini, Harold A. Smith and Harold Beacom. The company is represented by Winston, Strawn & Shaw, First National Bank Building, Chicago.

Wilmington, Del.—Sealed Containers Corporation, care of the Registrar & Transfer Company, 900 Market street, Wilmington, representative, has been incorporated with capital of $22,400, to manufacture and deal in paper boxes and containers.

Dover, Del.—The Grant Fibre, Keg and Barrel Company, care of the Capital Trust Company of Delaware, Dover, representative, incorporated, capital $100,000, to manufacture fiber containers, etc.

George Thomas Heads Lobster Club

[FROM OUR REGULAR CORRESPONDENT]

CORINTH, N. Y., April 4, 1927.—George Thomas, president of the Warren Curtis Chapter, Employees' Mutual Benefit Association of the International Paper Company's plant here, was elected president of the Lobster Club, organized recently among officials and department heads of the local plant. Twenty-five members of the new club enjoyed a lobster dinner here Saturday night. The new organization promises to take an important part in the social life of this paper mill town.

Cotton and Paper Rolls
Super Calenders
Friction Calenders
Embossing Calenders
Hydraulic Presses and Pumps

Successors to the Granger Foundry & Machine Co.

The Textile-Finishing Machinery Company
PROVIDENCE, R. I.

TRADE MARK

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Registered

DIAMOND B SPLICING TISSUE

HIGHEST QUALITY
SPECIALLY MADE FOR THE PAPER TRADE
PRICES ON APPLICATION

BEMIS ASSOCIATES INC.
WATERTOWN, MASS.

Clay
300 tons daily
AMERICAN MADE FOR AMERICAN TRADE

Some portion of our clay production is *pulverized*. That part of it which is *pulverized* is, as far as we know, the only *pulverized clay* which is washed and refined before being pulverized. This insures greater freedom from impurities and an exceedingly uniform product.
Prices of M-E pulverized clay may surprise you even considering this additional treatment.
Let us submit sample and quote you.

THE

MINER-EDGAR CO.
110 William St.,
NEW YORK

C. K. WILLIAMS & CO. ANCHOR BRAND DRY COLORS AND FILLERS EASTON, PA. U.S.A.

Red
Brown
Yellow
} Oxides

Talc
Yellow Ochres,
Umbers, Agalite

C. K. Williams & Company
EASTON, PA.

Missisquoi Pulp and Paper Company
SHELDON SPRINGS VERMONT

White and Tinted Bristols—White Blanks—Index Bristol and Specialties in Card Boards.

Market Quotations

Quoted by Hepburn & Co., 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Advance Bag & Paper, 7s 1943	101	103*
A. P. W. Pulp & Power, 7s 1945	100	102
American Writing Paper, 6s 1947	79	82
Bastrap Pulp & Paper, 6½s 1940	100	103
British Columbia Pulp & Paper, 6s 1950	80	90*
Beaver Products Corp., 7½s 1942	106	109
Berkshire Hills Paper, 8s 1941	60	80
Brown Paper Co., 1st 5½s 1946	94	98
Bryant Paper Co., 6s 1942	98	102
Cape Breton Pulp & Paper, 6s 1932	101	103
Central Paper Serial 6, 6½s 1942	89	...
Champion Coated Paper, 6s 1926 to 1932	98	...
Champion Fibre, 8s 1930	100	...
Champion Paper Corp'n, 1st 6s 1945	94	97
Continental Paper Products, 6½s 1943	88	91½
Cornell Wood Prod., 7½s 1937	100	104*
Crown Willamette Paper, 6s 1951	97	101
Donnaconna Paper, 6s 1940	98	102
Dells Paper & Pulp Serial, 6s 1926-38	*95	...
Eastern Mfg. Co., 7s 1938	90	93
Eddy Paper, 7½s 1931	99	102
Escanaba Paper Serial, 6s 1926-39	90	95
Filer Fibre Serial, 7s 1926-39	90	95
Fort Orange Paper, 7s 1942	95	100*
Fox River Paper, 7s 1931	99	...
Gair Co. (The Robt.), 7s 1937	104	106
Gilbert Paper Co., 6½s 1926-39	89	...
Hammermill Paper, 6s 1939	100	103*
Itaska Paper & Prairie River Power, J+5½s 1926-38	94	96*
Itaska Paper 1st, 6s 1933-38	96	98*
Kalamazoo Veg. Parchment, 6s 1938	98	...
Marinette & Menominee, 7½s 1936	101	...
Mead Pulp & Paper, 5% Notes, 1927-37	90	95
Menasha Printing & Carton, 6½s 1939	99½	...
Mengel Company, 7s 1926 to 1934	100*	102
Monroe Paper Products, 7½s 1932	96	...
Munising Paper, 6s 1927-36	96	100
Nekoosa Edwards, 1st Ref. 6s 1928 to 1942	96	99*
Orono Pulp & Paper, 6s 1943	98	...
Orono Pulp & Paper, 5s 1941	94	...
Oswego Falls Corp., 6s 1941	98	100*
Oxford Paper, 6s 1947	100	...
Paepcke Paper Mills, 7s 1930	99	None
Parsons Pulp & Lumber, 7s 1928	97	...
Parker Young Co., 6½s 1944	95	99
Paterson Parchment Paper, 6s 1938	100½	102
Penobscot Chemical Fibre, 6s 1942	98	...
Poland Paper, 7s 1930	98	...
Port Alfred Pulp, 6½s 1943	*96	...
Queens City Paper, 7s 1932	95	100*
Richardson Co., 6s 1938	100	...
Spanish River Pulp & Paper, 8s 1941	106	110
Stevens & Thompson Paper, 6s 1942	91	94
St. Anne Paper, 6½s 1946	95½	98*
St. Croix Paper, 5s 1926-37	95	98*
St. Regis Paper Serial, 6½s 1926-35	98½	...
Tait Paper & Color Industries, 6s 1934	85	93
Taggart Bros. Co., 6s 1944	94	97
Ticonderoga Pulp & Paper, 5s 1930	95	98
Ticonderoga Pulp & Paper, 6s 1940	98½	100*
Warren (The S. D.) Company, 6s 1945	98	101
Wotab Paper, 6½s 1943	102	...
Westfield River Paper, 7s 1926-43	Wanted	...
Whitaker Paper, 7s 1942	103	106
Witmer-Parsons Pulp & Lbr. (Units)	63	70

STOCKS	BID	ASKED
Advance Bag & Paper, 8% Pfd.	97	100*
Am. Tissue Mills, 7% Pfd.	95	100
British Columbia P. & P., Pfd.	65	70
Brompton Pulp & Paper, 8% Pfd.	93	98*
Brown Corpn., 7% Pfd.	97	100*
Champion Fibre, 7% Pfd.	99	103*
Diem & Wing, 7% Cum. Pfd.	87	...
Donnaconna Paper, Com.	55	60
Donnaconna Paper, Pfd.	95	100
Eastern Mfg. Co., 1st Pfd.	34	37
Great Northern Paper (new)	60	70
Hammermill Paper, 7% Pfd.	105	110
Hinde & Dauch, Com.	135	...
Hinde & Dauch, Pfd.	100	...
Holyoke Card & Paper	150	None
Marathon Paper Mills, Com.	125	...
Midwest Box Co., Pfd. 8%	80	85
Midwest Box Co., Pfd. 6%	55	65
Louis De Jonge Co., 7% Pfd.	93	96
Oxford Papers, Com.	102	...
Oxford Paper Co., Pfd.	100	105
Penobscot Chemical Fibre, Com.	65	75*
Richardson Co., 7% Pfd.	104	...
Rubberoid Company	73	77
Seaman Container, Class B (par $1)	1	None Off.
Seaman Paper Co.	Wanted	None Off.
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	97	100
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper, Com.	58	63
West Virginia Pulp and Paper, Pfd.	97	102
Whittaker Paper, 7% Cum. Pfd.	97	103

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.50	@ 8.00
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.80	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.75	@ 5.25
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Boards—per ton—		
News	42.50	@45.00
Straw	57.50	@60.00
Chip	40.00	@42.50
Binders' Boards	65.00	@70.00
Sgl. Mla. Ll. Chip.	52.50	@55.00
Wood Pulp	67.50	@72.50
Container	60.00	@65.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	32.00	@34.00
Dry	34.00	@36.00
(F. o. b. Mill)		
No. 1 Domestic	27.00	@30.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.70	@ 4.50
Easy Bleaching	3.15	@ 3.35
No. 1 strong unbleached	2.75	@ 3.05
Mitscherlich unbleached	2.80	@ 3.40
No. 2 strong unbleached	2.70	@ 2.80
No. 1 Kraft	2.80	@ 3.05
Sulphate—		
Bleached	3.75	@ 4.00
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.65	@ 4.75
Easy Bleaching Sulphite	3.00	@ 3.25
News Sulphite	2.65	@ 2.85
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	2.70	@ 3.40
Soda Bleached	3.75	@ 4.00
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.85

Domestic Rags

New Rags

Prices to Mill f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	11.50	@12.00
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.75	@11.25
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	7.25	@ 7.75
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.50	@ 5.00
Pink Corset Cuttings	9.50	@10.00
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	4.00	@ 4.50
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.75	@ 5.25
White, No. 2—		
Repacked	3.25	@ 3.75
Miscellaneous	2.75	@ 3.00
St. Soiled, White	2.50	@ 2.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.40	@ 1.50
No. 3	1.25	@ 1.35
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Light Silesias	7.00	@ 7.80
Light Flannelettes	7.75	@ 8.50
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
New Mixed Cuttings	3.00	@ 3.50
New Dark Cuttings	2.75	@ 3.25
No. 1 White Linens	7.00	@ 7.75
No. 2 White Linens	5.25	@ 6.00
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med Light Prints	1.85	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.75	@ 1.80
Dark Cottons	1.60	@ 1.65
Shoppery	1.50	@ 1.60
French Blues	2.25	@ 2.50

Old Rope and Bagging

Prices to Mill f. o. b. N. Y.

Gunny No. 1—		
Foreign	1.90	@ 2.00
Domestic	1.95	@ 2.05
Wool Tares, light	1.60	@ 1.70
Wool Tares, heavy	1.75	@ 1.85
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.50	@ 1.65
Manila Rope—		
Foreign	3.75	@ 4.00
New Burlap Cut	3.00	@ 3.25
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.40	@ 3.60
Hard, White, No. 2	3.00	@ 3.15
Soft, White, No. 1	2.80	@ 3.00
Flat Stock—		
Stitchless	1.25	@ 1.35
Overissue Mag.	1.25	@ 1.35
Solid Flat Book	1.15	@ 1.25
Crumpled No. 1	.80	@ .90
Solid Book Ledger	1.90	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.45	@ .55
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.65	@ .75
Container Board	.50	@ .55
Bogus Wrapper	.70	@ .80
Old Kraft Machine Compressed bales	2.00	@ 2.10
News—		
No. 1 White News	1.50	@ 1.60
Strictly Overissue	.65	@ .75
Strictly Folded	.50	@ .55
No. 1 Mixed Paper	.40	@ .45
Common Paper	.25	@ .30

WOOD PULP
AGENTS

PRICE & PIERCE, Ltd.,

17 EAST 42ND ST.
NEW YORK

For reliable running and average long life

LINDSAY FOURDRINIER WIRES

are unsurpassed

We make them for the largest and fastest machines.

Cylinder Wires All Sizes

The Lindsay Wire Weaving Co.

Collinwood Sta. CLEVELAND, OHIO

Uniform width with the C & P Automatic Cutter

PUT a run of stock through the C & P Craftsman Cutter and pull out a trim strip at random. Bring the two ends together. Now pull one end slowly back along the surface of the stock until the strip is flat again. Watch both edges carefully.

Uniform width, the whole length of the cut! No overhang anywhere along either margin! An accurate demonstration of the every-day performance you can expect from *your* C & P Craftsman Cutter!

You get dependable speed along with accuracy, too. Customers sometimes tell us, in fact, that their C & P Cutters really "set the pace" for the whole plant. It is complete, but not complicated; massive, but not cumbersome; powerful, but not unduly power-consuming.

C & P Cutters are described in interesting booklets and other literature which we shall be very pleased to send you. Or, if you prefer, your Supply House will gladly supply particulars upon request and without any obligation.

Chandler & Price
PRESSES & PAPER CUTTERS

THE CHANDLER & PRICE COMPANY
CLEVELAND, U. S. A.

Twines

F. o. b. Mill

Cotton—			
No. 1	.26	@	.27
No. 2	.24	@	.25
No. 3	.22	@	.23
B. C., 18 basis	.36	@	.38
A. B. Italian, 18 basis	.46	@	.51
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¼	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¾
White Tissue—			
20x30 sheet	.07¼	@	.07½
Boards, per ton—			
(Delivered Central Territory—			
Plain Chip	42.50	@	45.00
Solid News	45.00	@	47.50
Manila Line Chip	55.00	@	57.50
Container Lined—			
(Delivered Central Territory)—			
85 Test	65.00	@	70.00
100 Test	70.00	@	75.00

Old Papers

F. o. b. Chicago

Shavings—			
No. 1 Hard White	3.60	@	3.70
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.90	@	3.00
No. 1 Mixed	1.35	@	1.45
No. 2 Mixed	1.05	@	1.10
Ledger & Writings	1.45	@	1.60
Solid Books	1.20	@	1.30
Blanks	1.65	@	1.75
Krafts	1.80	@	1.90
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.75	@	.85
Folded News (oversisue)	.75	@	.85
Old Newspapers—			
No. 1	.55	@	.60
No. 2	.55	@	.60
Mixed Papers—			
No. 1	.50	@	.55
Roofing Stocks—			
F. o. b. Chicago, net cash			
No. 1	30.00	@	—
No. 2	28.00	@	—

BOSTON

Paper

F. o. b. Mill

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	06½	@	.11½
Rag content	.15	@	.30
All rag	36½	@	.55
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.07	@	.10
Book, M. F.	.06¾	@	.09¾
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06	@	.06½
No. 2 Kraft	.05	@	.05¾
Common Bogus	.02¼	@	.02½
Delivered New England points			
Straw Board, rolls .009			57.50
Straw Board in Sheets, basis 35s to 70s			53.50
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board bender	75.00	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mills)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers

Shavings—			
No. 1 Hard White	3.25	@	3.75
White Blank News	1.50	@	1.60
Manila Env. Cuttings	2.00	@	2.25
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	.03	@	.03¼
No. 2 Soft White	02½	@	.03
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.50	@	—
No. 1 Books, Heavy	1.10	@	1.20
No. 1 Books, Light	—	@	1.15
No. 1 New Manila	2.25	@	2.50
No. 1 Old Manila	1.50	@	1.75
Print Manila	.85	@	.95
Old Kraft	1.85	@	1.95
Overissue News	.55	@	.60
Old Newspapers	.45	@	.50
No. 1 Mixed Paper	.45	@	.50
Box Board, Chip	.45	@	.60

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	1.75	@	—
Domestic	1.75	@	1.87½
Manila Rope—			
Foreign	3.60	@	3.75
Domestic	4.00	@	4.50
Mixed Rope	1.05	@	1.15
Scrap burlaps	1.35	@	—
Wool Tares, heavy	1.50	@	—
Mixed Strings	1.05	@	1.15
New Burlap Cutting	2.15	@	2.25

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.11	@	.11½
Silesias, No. 1	.07	@	.07½
New Unbleached	.10	@	.10½
Fancy	.06¼	@	—
Washable	.05	@	—
Cottons—According to Grades—Blue—			
Blue Overalls	.07	@	.07¼
New Black, soft	.04	@	.04¼
Khaki Cuttings	.05	@	.05½
Corduroy	.03½	@	.04
New Canvas	.09	@	.10

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1	5.50	@	—
Repacked	6.25	@	6.50
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.60	@	—
Miscellaneous	1.90	@	2.15
Roofing Stock—			
No. 1	1.60	@	1.65
No. 2	1.45	@	1.55
No. 3	1.15	@	1.25
No. 4	1.15	@	1.25

PHILADELPHIA

Paper

F. o. b. Mill

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06¾	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¼	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05	@	.05¼
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	55.00	@	56.00
News Board	40.00	@	42.50
Chip Board	37.50	@	40.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	85.00	@	90.00
No. 2, per ton	70.00	@	75.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	66.00	@	58.00
Slaters	70.00	@	72.00
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply	2.10	@	2.15
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft)	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	.03½	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09
New Black Mixed	.05	@	.05½

Bagging

F. o. b. Phila

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	4.25	@	4.50
Sisal Rope	1.25	@	2.00
Mixed Rope	1.25	@	1.50
Scrap Burlaps	1.75	@	2.00
Wool Tares, heavy	2.00	@	2.25
Mixed Strings	1.50	@	1.75
No. 1, New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.25	@	2.50

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.90	@	2.00
Writing Paper	1.65	@	1.75
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.80	@	.85
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.90	@	1.00
Old Kraft	2.00	@	2.20
Common Paper	.50	@	.60
No. 1 Mixed Paper	.60	@	.70
Straw Board, Chip	.75	@	.80
Binders Board, Chip	.75	@	.80
Overissue News	.80	@	.90
Old Newspaper	.60	@	.70

Domestic Rags (Old)

White, No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	4.75	@	5.00
White, No. 2—			
Repacked	.03½	@	.04
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	1.55	@	1.65
No. 2	1.40	@	1.50
No. 3	1.25	@	1.35
No. 4	1.20	@	1.30
No. 5A	.90	@	1.00
B	.80	@	.90
C.	.80	@	.90

TORONTO

Paper

F. o. b. Mill

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (Carloads)	3.25	@	—
Sheet (carload)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carLoads	7.75	@	—
No. 2 M. F. (carloads	7.50	@	—
No. 3 M. F. (carloads)	7.25	@	—
No. 1 S. C. (carloads)	8.25	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.75	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.85	@	—
White Rap	5.25	@	—
"B" Manila	5.65	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.20	@	—
M. G.	7.35	@	—

Pulp

(F. o. b. Mill)

Ground wood	28.00	@	30.00
Sulphite easy bleaching	60.00	@	65.00
Sulphite news grade	55.00	@	60.00
Sulphite, bleached	80.00	@	85.00
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut.	3.50	@	—
Soft White Book Shavings	3.00	@	—
White Blk., News.	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock.	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Folded News	.80	@	—
No. 1 Mixed Papers	.60	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	11	@	.11½
Fancy Shirt Cuttings	.05	@	.05¼